OptiPlex GX*i*

Last revised: 26 Jun 1998

DMI Support

Desktop Management Interface (DMI) support enables the management of the computer system's software and hardware. DMI defines the software, interfaces, and data files that enable the system to determine and report information about its components.

DMI is already installed on the system's hard-disk drive (if the system has Dell®-installed Microsoft Windows). DMI support can be enabled as the user completes the setup of the system with the Dell Assistant utility. Alternatively, DMI support can be enabled by double-clicking on the DMI icon in the Windows Control Panel (located in the Main program group). For instructions on enabling DMI support or for information about DMI, refer to the DMI online help. The user can access the online help by double-clicking on the DMI icon in the Control Panel. The DMI online help is also provided in the Dell Accessories program group.

DMI online help

Dell Inspector Utility

The Dell Inspector utility uses DMI support to display detailed information about the hardware and software configuration of the system. The Dell Inspector is located in the Dell Accessories program group and is also accessible from the Dell Assistant.

Dell Inspector online help

POST Beep Codes: OptiPlex GX*i*

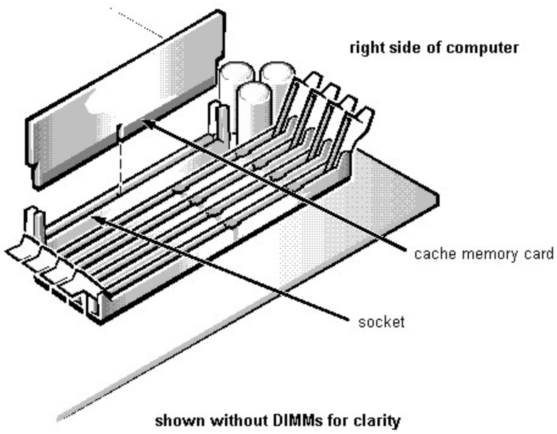
If the monitor cannot display error messages during the POST, the system may emit a series of beeps that identifies the problem or that can help you identify a faulty component or assembly. The following table lists the beep codes that may be generated during the POST. Most beep codes indicate a fatal error that prevents the system from completing the boot routine until the indicated condition is corrected.

Beep Code	Error	Probable Causes
1-3	Monitor not detected	Disconnected or faulty monitor
1-1-3	NVRAM write/read failure	Defective system board
1-1-4	BIOS checksum failure	Faulty BIOS or defective system board
1-2-1	Programmable interval-timer failure	Defective system board
1-2-2	DMA initialization failure	Defective system board
1-2-3	DMA page register write/read failure	Defective system board
1-3-1	Main-memory refresh verification failure	Faulty or improperly seated DIMM or defective system board
1-3-2	No memory installed	No memory installed or faulty or improperly seated DIMM
1-3-3	Chip or data line failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
1-3-4	Odd/even logic failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
1-4-1	Address line failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
1-4-2	Parity failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
2-1-1 through 2-4-4	Bit failure in the first 64 KB of main memory	Faulty or improperly seated DIMM
3-1-1	Slave DMA-register failure	Defective system board
3-1-2	Master DMA-register failure	Defective system board
3-1-3	Master interrupt-mask register failure	Defective system board
3-1-4	Slave interrupt-mask register failure	Defective system board
3-2-4	Keyboard-controller test failure	Faulty keyboard controller (defective system board)
3-3-4	Screen initialization failure	Faulty video subsystem (defective system board)
3-4-1	Screen-retrace test failure	Faulty video subsystem (defective system board)
3-4-2	Search for video ROM failed	Faulty video subsystem (defective system board)
4-2-1	No timer tick	Defective system board
4-2-2	Shutdown failure	Defective system board
4-2-3	Gate A20 failure	Defective system board
4-2-4	Unexpected interrupt in protected mode	Defective system board
4-3-1	Memory failure above address 0FFFFh	Faulty or improperly seated DIMM
4-3-3	Timer-chip counter 2 failure	Defective system board
4-3-4	Time-of-day clock stopped	Bad battery or defective system board
4-4-1	Serial-port test failure	Faulty I/O chip (defective system board)
4-4-2	Parallel-port test failure	Faulty I/O chip (defective system board)
4-4-3	Math coprocessor failure	Faulty microprocessor chip or system board
4-4-4	Cache test failure	Defective microprocessor or system board

Bus-mastering: OptiPlex GX*i*

Bus-mastering on all slots	Yes

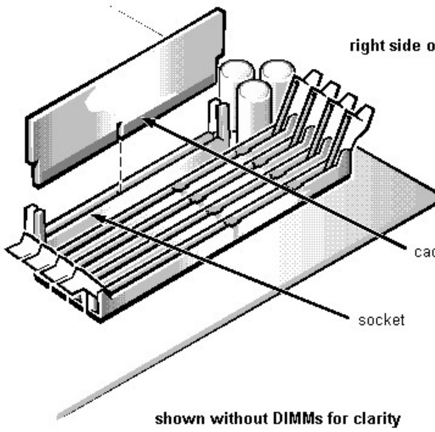
Cache-Memory Card Removal (Low-Profile Chassis): OptiPlex GX*i*



To remove the cache memory card, rock the cache memory card from side to side while pulling up on it. Take note of which end of the cache memory card is the pin-1 end (nearest the right side of the system board).

When you replace the cache memory card, be sure the pin-1 end of the cache memory card (which has a "1" etched near the connector) is toward the right side of the system board.

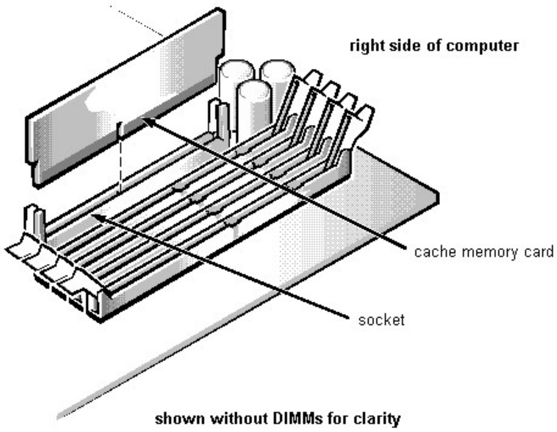
Cache-Memory Card Removal (Midsize Chassis): OptiPlex GX*i*



To remove the cache memory card, rock the cache memory card from side to side while pulling up on it. Take note of which end of the cache memory card is the pin-1 end (nearest the right side of the system board).

When you replace the cache memory card, be sure the pin-1 end of the cache memory card (which has a "1" etched near the connector) is toward the right side of the system board.

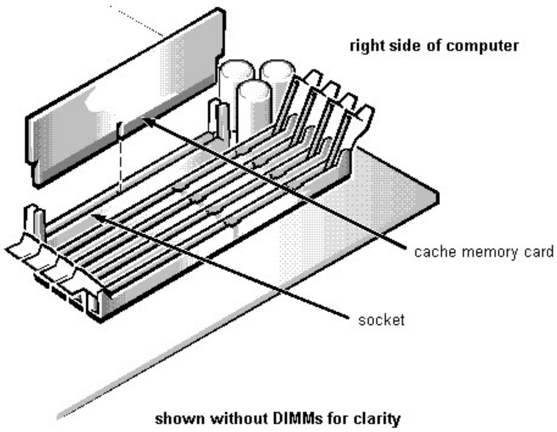
Cache-Memory Card Removal (Mini Tower Chassis): OptiPlex GX*i*



To remove the cache memory card, rock the cache memory card from side to side while pulling up on it. Take note of which end of the cache memory card is the pin-1 end (nearest the right side of the system board).

When you replace the cache memory card, be sure the pin-1 end of the cache memory card (which has a "1" etched near the connector) is toward the right side of the system board.

Cache-Memory Card Removal (Mini Tower Chassis): OptiPlex GX*i*



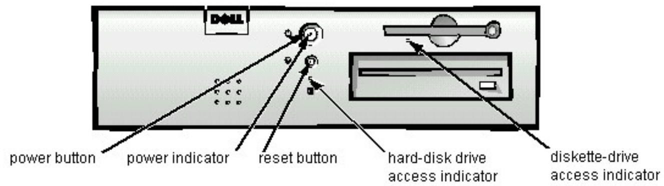
1. Unlatch and rotate the power supply up until it locks.
2. Rock the cache memory card from side to side while pulling up on it.
   Take note of which end of the cache memory card is the pin-1 end (nearest the right side of the system board).

When you replace the cache memory card, be sure the pin-1 end of the cache memory card (which has a "1" etched near the connector) is toward the right side of the system board.

Controls: OptiPlex GX*i*

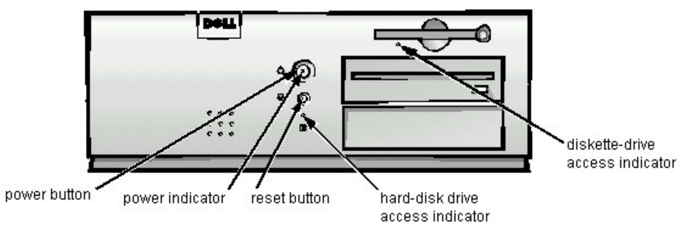
Low-Profile Chassis | Midsize Chassis | Mini Tower Chassis

Low-Profile Chassis



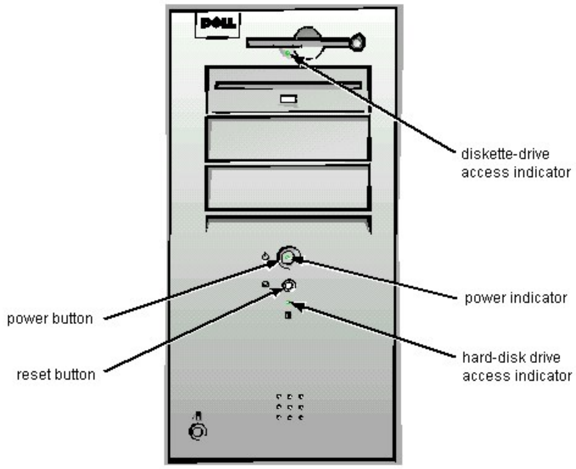
Power button	On/off push-button that turns computer on and off.
Power indicator	Lights up when the computer is on.
Reset button	Initiates a hardware reset. To avoid possible data or file structure corruption, use the reset button only when the system cannot be rebooted with the <Ctrl><Alt><Del> key combination, and close any open applications or files if possible.
Hard-disk drive access indicator	Lights up when the hard-disk drive is being accessed.
Diskette-drive access indicator	Lights up when the diskette drive is being accessed.

Midsize Chassis



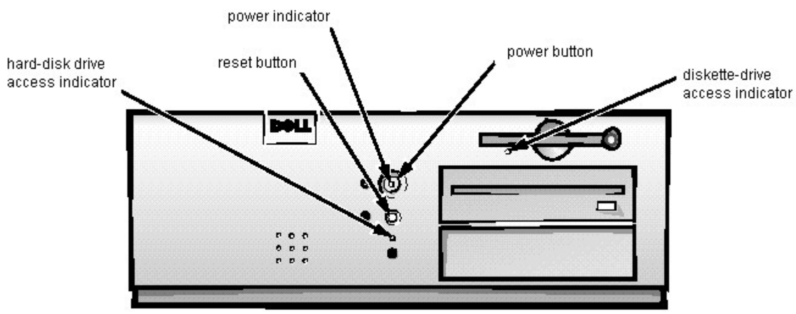
Power button	On/off push-button that turns computer on and off.
Power indicator	Lights up when the computer is on.
Reset button	Initiates a hardware reset. To avoid possible data or file structure corruption, use the reset button only when the system cannot be rebooted with the <Ctrl><Alt><Del> key combination, and close any open applications or files if possible.
Hard-disk drive access indicator	Lights up when the hard-disk drive is being accessed.
Diskette-drive access indicator	Lights up when the diskette drive is being accessed.

Mini Tower Chassis



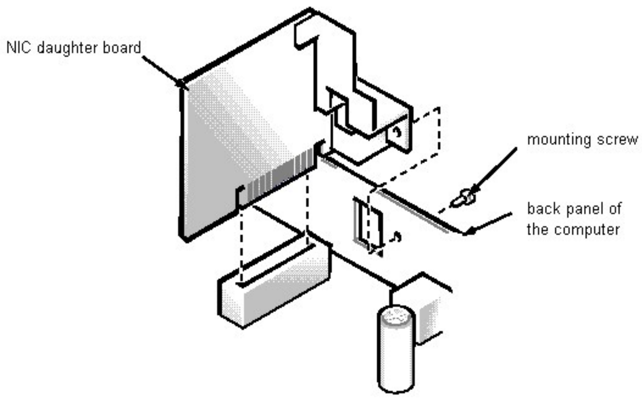
Power button	On/off push-button that turns computer on and off.
Power indicator	Lights up when the computer is on.
Reset button	Initiates a hardware reset. To avoid possible data or file structure corruption, use the reset button only when the system cannot be rebooted with the <Ctrl><Alt><Del> key combination, and close any open applications or files if possible.
Hard-disk drive access indicator	Lights up when the hard-disk drive is being accessed.
Diskette-drive access indicator	Lights up when the diskette drive is being accessed.

Controls: OptiPlex GX*i*



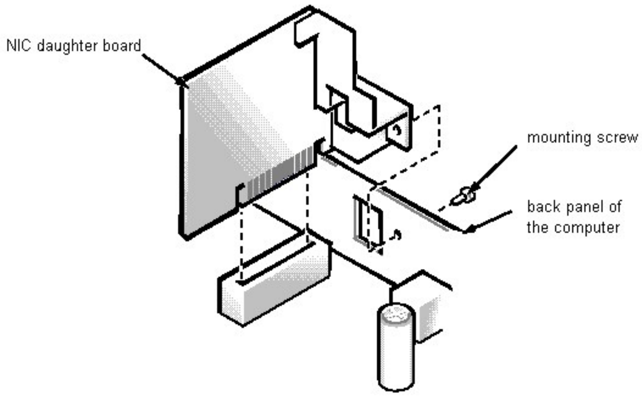
Power button	On/off push-button that turns computer on and off.
Power indicator	Lights up when the computer is on.
Reset button	Initiates a hardware reset. To avoid possible data or file structure corruption, use the reset button only when the system cannot be rebooted with the <Ctrl><Alt><Del> key combination, and close any open applications or files if possible.
Hard-disk drive access indicator	Lights up when the hard-disk drive is being accessed.
Diskette-drive access indicator	Lights up when the diskette drive is being accessed.

NIC Daughter Board Removal (Low-Profile Chassis): OptiPlex GX*i*



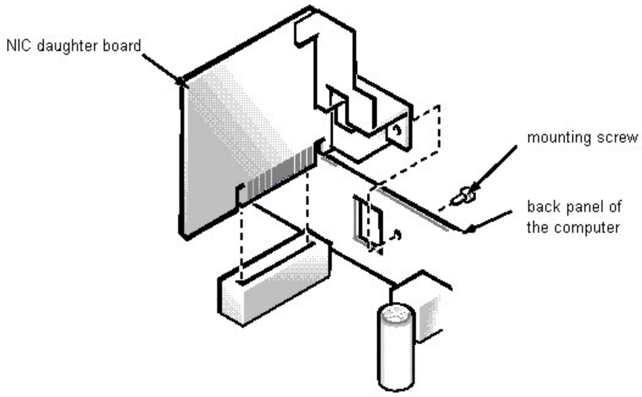
1. Remove the NIC daughter-board mounting screw.
2. Pull straight up on the NIC daughter board.

NIC Daughter Board Removal: OptiPlex GX*i*



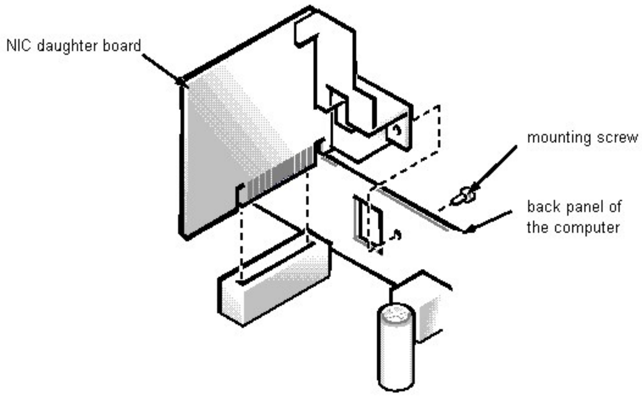
1. Remove the NIC daughter-board mounting screw.
2. Pull straight up on the NIC daughter board.

NIC Daughter Board Removal (Midsize Chassis): OptiPlex GX*i*



1. Remove the NIC daughter-board mounting screw.
2. Pull straight up on the NIC daughter board.

NIC Daughter Board Removal (Mini Tower Chassis): OptiPlex GX*i*



1. Remove the NIC daughter-board mounting screw.
2. Pull straight up on the NIC daughter board.

Dell Inspector Utility: OptiPlex GX*i*

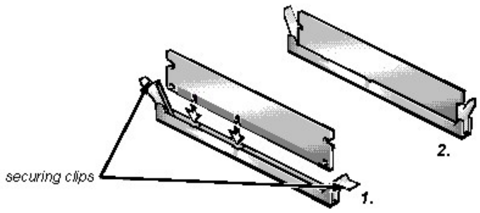
The Dell Inspector utility uses DMI support to display detailed information about the hardware and software configuration of the system. The Dell Inspector is located in the Dell Accessories program group and is also accessible from the Dell Assistant.

Dell Inspector online help

DIMM Removal and Installation (Midsize Chassis): OptiPlex GX*i*

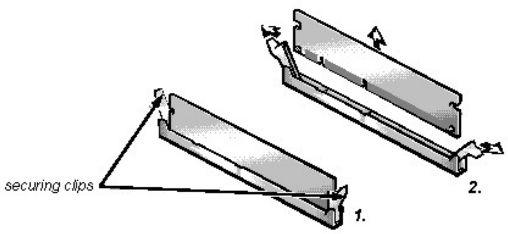
DIMM Removal | DIMM Installation

DIMM Removal



1. Push outward on the DIMM socket's securing clips until the DIMM is released from its socket.
2. Lift the DIMM away from the socket.

DIMM Installation

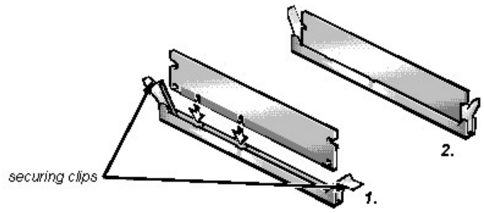


To replace a DIMM, press the DIMM fully into the socket while closing the securing clips to lock the DIMM into the socket.

DIMM Removal and Installation (Low-Profile Chassis): OptiPlex GX*i*

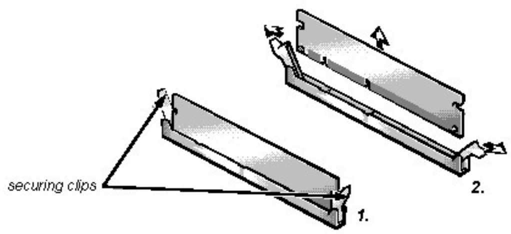
DIMM Removal | DIMM Installation

DIMM Removal



1. Push outward on the DIMM socket's securing clips until the DIMM is released from its socket.
2. Lift the DIMM away from the socket.

DIMM Installation

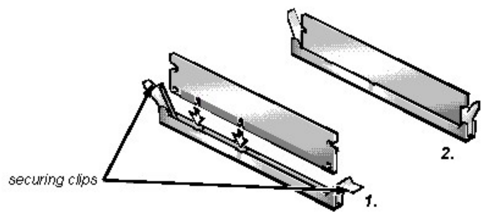


To replace a DIMM, press the DIMM fully into the socket while closing the securing clips to lock the DIMM into the socket.

DIMM Removal and Installation (Midsize Chassis): OptiPlex GX*i*

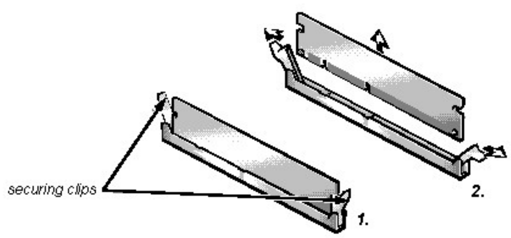
DIMM Removal | DIMM Installation

DIMM Removal



1. Push outward on the DIMM socket's securing clips until the DIMM is released from its socket.
2. Lift the DIMM away from the socket.

DIMM Installation

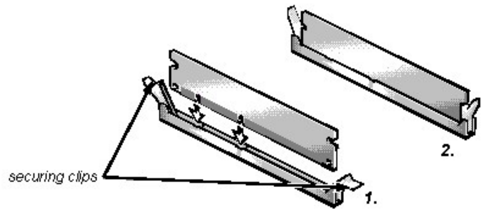


To replace a DIMM, press the DIMM fully into the socket while closing the securing clips to lock the DIMM into the socket.

DIMM Removal and Installation (Midsize Chassis): OptiPlex GX*i*

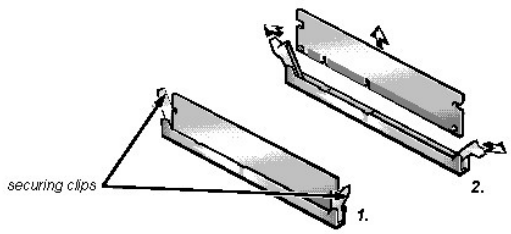
DIMM Removal | DIMM Installation

DIMM Removal



1. Push outward on the DIMM socket's securing clips until the DIMM is released from its socket.
2. Lift the DIMM away from the socket.

DIMM Installation

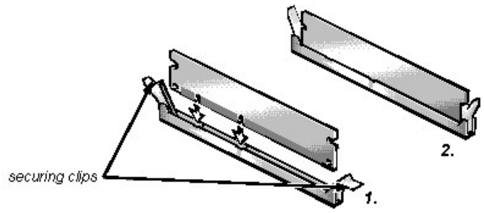


To replace a DIMM, press the DIMM fully into the socket while closing the securing clips to lock the DIMM into the socket.

DIMM Removal and Installation (Mini Tower Chassis): OptiPlex GX*i*

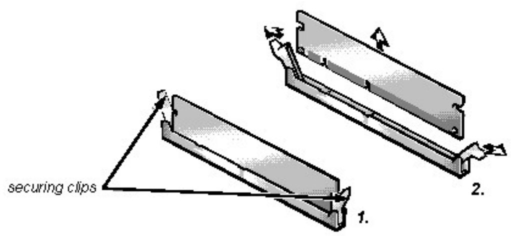
DIMM Removal | DIMM Installation

DIMM Removal



1. Push outward on the DIMM socket's securing clips until the DIMM is released from its socket.
2. Lift the DIMM away from the socket.

DIMM Installation



To replace a DIMM, press the DIMM fully into the socket while closing the securing clips to lock the DIMM into the socket.

DMA Channel Assignments: OptiPlex GX*i*

NOTE: The integrated audio, NIC, and video controllers are assigned available DMA channels automatically during system start-up.

DREQ Line	Used By/Available
DREQ0	Available
DREQ1	Available
DREQ2	Generated by super I/O controller to initiate DMA cycle for attached diskette drive
DREQ3	Available
DREQ4	Generated by bus controller chip to activate second DMA controller
DREQ5	Available
DREQ6	Available
DREQ7	Available

DMI Support: OptiPlex GX*i*

Desktop Management Interface (DMI) support enables the management of the computer system's software and hardware. DMI defines the software, interfaces, and data files that enable the system to determine and report information about its components.

DMI is already installed on the system's hard-disk drive (if the system has Dell®-installed Microsoft Windows). DMI support can be enabled as the user completes the setup of the system with the Dell Assistant utility. Alternatively, DMI support can be enabled by double-clicking on the DMI icon in the Windows Control Panel (located in the Main group program). For instructions on enabling DMI support or for information about DMI, refer to the DMI online help. The user can access the online help by double-clicking on the DMI icon in the Control Panel. The DMI online help is also provided in the Dell Accessories program group.

DMI online help

Documentation: OptiPlex GX*i*

Online System User's Guide (**.hlp)**
Reference and Installation Guide (**.pdf**), low-profile chassis
Reference and Installation Guide (**.pdf**), midsize chassis
Reference and Installation Guide (**.pdf**), mini tower chassis
Service Manual (**.pdf**)

NOTES: **.pdf** *files require Acrobat Reader, which can be downloaded from the Adobe™ web site. To view* **.pdf** *files online after downloading and installing Acrobat Reader, you may need to configure Acrobat Reader to work with your browser as a helper application or plug-in. See the Help information associated with your browser for additional information.*

.hlp *files require* **winhelp.exe***, which is part of the Microsoft® Windows® operating system (located in the* **windows** *directory). To view* **.hlp** *files online, you may need to configure* **winhelp.exe** *to work with your browser as a helper application. See the Help information associated with your browser for additional information.*

Drivers and Utilities: OptiPlex GX*i*

Video, EIDE, and MPEG Drivers

For information on video drivers, bus-mastering EIDE drivers, and MPEG drivers, see "Using Drivers and Utilities" in the online *System User's Guide*.

Audio Drivers

For information on audio drivers, see "Using the Audio Controller" in the online *System User's Guide*.

Configuring the Windows NT® 4.0 NIC Driver

The Windows NT 4.0 operating system automatically detects and installs the NIC driver. To reinstall the driver, complete the following steps:

1. Use the Dell DiskMaker program (located in the Dell Accessories folder) to make a diskette copy of the NIC drivers installed on your hard-disk drive.See "Backing Up Drivers and Utilities" in the online *System User's Guide*.
2. Connect the network cable to the back of your computer.
   See "Network Cable Requirements" in the *Reference and Installation Guide* for more information.
3. Verify that the NIC is enabled in the System Setup program.
   See Chapter 2, "Using the System Setup Program," in the *Reference and Installation Guide* for more information.
4. Start the Windows NT operating system, and log in as user Administrator or as a user with administrative privileges.
   For information on Administrative users and privileges, see your Windows NT documentation.
5. Double-click My Computer, double-click Control Panel, and then double-click the Network icon.
   NOTE: If you are installing networking on your system for the first time, the Windows NT operating system displays a message asking if you want to install networking. Click Yes, and refer to your Windows NT documentation for instructions.
6. Click the Adapters tab in the Network Control Panel, and then click Add to access the Select Network Adapter window.
7. Click Have Disk. Insert the NIC driver diskette 1 into drive A, type `a:\`, and then click OK.
   If you have a CD-ROM drive, insert the Windows NT 4.0 CD into the CD-ROM drive, specify the **\drvlib\netcard\x86\3c90x** or **\i386\drvlib.nic\3c90x** directory on the CD, and then click OK.
   If you do not have a CD-ROM drive, insert the NIC driver diskette 1 into drive A, type `A:\`, and then click OK.
   The Select OEM Option dialog box appears.
8. Select `3Com Fast EtherLink XL NIC (3C905)` for the 10/100 Mbits/sec NIC, and then click OK.
   When prompted, remove the NIC driver diskette1 from the diskette drive and insert the NIC driver diskette 2.
9. Click Close in the Windows Welcome screen, and then click Close again in the Network window.
10. If you are prompted, enter information about your specific network.
    See your system administrator for information.
11. Click Yes in the Network Settings Change window to restart your system.

Configuring the Windows NT 3.5*x* NIC Driver

To connect your system to and configure it for use on an Ethernet network, you must complete the following steps:

1. Use the Dell DiskMaker program to make a diskette copy of the NIC drivers installed on your hard-disk drive.
   See "Backing Up Drivers and Utilities" in the online *System User's Guide*.
2. Connect the network cable to the back of your computer.
   See "Network Cable Requirements" in the *Reference and Installation Guide* for more information.
3. Verify that the NIC is enabled in the System Setup program.
   See Chapter 2, "Using the System Setup Program," in the *Reference and Installation Guide* for more information.
4. Start the Windows NT operating system, and log in as user Administrator or as a user with administrative privileges.
   For information on Administrative users and privileges, see your Windows NT documentation.
5. Double-click the Program Manager, double-click the Main group, and double-click the Control Panel icon.
6. From the Control Panel, double-click the Network icon.
   The Network Settings window appears.
7. From the Installed Adapters group, select the existing 3Com driver and click Remove.
8. Click Yes in the Network Settings dialog box.
9. Click Add Adapter in the Network Settings window. Then scroll to <Other> Requires Disk From Manufacturer, and click Continue.
10. Insert the NIC driver diskette 1 into drive A, type `A:\`, and then click OK.
    The Select OEM Option dialog box appears.
11. Select 3Com Fast EtherLink XL NIC (3C905) for the 10/100 Mbits/sec NIC, and then click OK.
    When prompted, remove the NIC driver diskette1 from the diskette drive and insert the NIC driver diskette 2.
12. Click Close in the Windows Welcome screen, and then click Close again in the Network window.
13. If you are prompted, enter information about your specific network.

See your system administrator for information.

14. Click Yes in the Network Settings Change window to restart your system.

Configuring the Windows For Workgroups™ NIC Driver

To connect your system to and configure it for use on an Ethernet network, you must complete the following steps:

1. Use the Dell DiskMaker program to make a diskette copy of the NIC drivers installed on your hard-disk drive.
   See "Backing Up Drivers and Utilities" in the online *System User's Guide*.
2. Connect the network cable to the back of your computer.
   See "Network Cable Requirements" in the *Reference and Installation Guide* for more information.
3. Verify that the NIC is enabled in the System Setup program.
   See Chapter 2, "Using the System Setup Program," in the *Reference and Installation Guide* for more information.
4. Start the Windows for Workgroups operating system.
5. In the Main program group, double-click the Windows Setup icon.
6. Click Continue to access the Windows Setup screen.
7. Select Change Network Settings from the Options menu.
8. From the Network Setup window, click Networks. Then click Install Microsoft Windows Network, and click OK.
9. Click Drivers to access the Network Drivers dialog box.
10. Click Add Adapter to access the Add Network Adapter dialog box.
11. Select Unlisted or Updated Network Adapter, and click OK.
12. Insert the NIC driver diskette 1 into drive A, and click OK.
13. In the Unlisted or Updated Network Adapter dialog box, select 3Com EtherLink XL/Fast EtherLink XL Adapter (3C90x) and click OK.
14. In the Network Drivers dialog box, click Close.
15. In the Network Setup dialog box, enter the User Name, Workgroup Name, and Computer Name, and click OK.
16. Click Yes to All in the Windows Setup dialog box.
17. Click OK when a message displays on the screen, stating that the system files are updating.
18. *If the Install Driver dialog box appears and prompts you for the* **el90x.386** *driver*, type `a:\WFW311` and click OK to load the Network Driver Interface Specification (NDIS) 3 driver.
    If the Install Driver dialog box appears and prompts you for the **el90x.dos** *driver*, type `a:\NDIS2\DOS` and click OK to load the NDIS 2 driver.
19. Click OK to have the operating system make backup copies of the system files.
20. Remove the diskette from drive A, save the changes to any open files, and then click Restart Computer.

Configuring the Windows® 95 NIC Driver

The Windows 95 operating system automatically detects and installs the NIC driver. The following instructions are for reinstalling the NIC driver on these versions of the Windows 95 operating system:

- Dell-installed Windows 95, Windows 95 Service Release 1
- Windows 95 Service Release 2 operating system and Windows 95 operating systems not installed by Dell.

To determine whether your operating system is Windows 95, Windows 95 Service Release 1, or Windows 95 Service Release 2, click the Start button, point to Settings, and click the Control Panel. Double-click the System icon to access the System Properties window, and click the General tab. If your system version is 4.00, then your operating system is Windows 95. If your system version is 4.00.950.A, then your operating system is Windows 95 Service Release 1. If your system version is 4.00.950.B, then your operating system is Windows 95 Service Release 2. For Windows 95 operating systems not installed by Dell, the system version is 4.00.

Dell-installed Windows® 95 or Windows 95 Service Release 1, or a Windows 95 operating system not installed by Dell

NOTE: The following instructions are for the Windows 95 32-bit NDIS 3.0 driver. *See "Using the NDIS Driver 2.01 Driver With Windows 95"* *for information on using the 16-bit NDIS 2.01 driver with the Windows 95 operating system.*

To reinstall the NIC driver in a system running Dell-installed Windows 95, Dell-installed Windows 95 Service Release 1, or a Windows 95 operating system not installed by Dell, perform the following steps:

1. Use the Dell DiskMaker program to make a diskette copy of the NIC drivers installed on your hard-disk drive.
   See "Backing Up Drivers and Utilities" in the online *System User's Guide*.
2. Verify that the integrated NIC is enabled and connected to its network.
   See Chapter 2, "Using the System Setup Program," in the *Reference and Installation Guide* for more information.
3. Start the Windows 95 operating system.
4. Click the Start button, point to Settings, and click the Control Panel. Then double-click the System icon.
5. In the System Properties window, click the Device Manager tab.
6. In the list of system devices, double-click Other Devices. Then select PCI Ethernet Controller, and click Properties to access the PCI Ethernet Controller window.
7. Select the Driver tab, and then click Change Driver to access the Select Hardware Type dialog box.
8. Select Network Adapter, and then click OK to access the Select Device window.

9. Click Have Disk to access the Install From Disk dialog box.
10. Insert the NIC driver diskette 2 into drive A, and click OK.
11. The system reads the files on diskette and then displays the Select Network Adapters window.
12. Select 3Com Fast EtherLink XL 10/100Mb Ethernet Adapter, and click OK to access the PCI Ethernet Controller Properties dialog box.
13. Click OK to access the Network dialog box. Enter your computer name and workgroup/domain. Then click Close.
14. Click OK in the Insert Disk dialog box.
15. When prompted for the location of additional files, specify the **c:\windows\options\cabs** directory on your hard-disk drive, or the **\win95** directory on your CD-ROM drive. Then click OK to access the System Properties dialog box, and click OK.
16. Remove the diskette from drive A. Click the Start button, click Shutdown, and then select Restart the Computer.
17. Click Yes when prompted to restart the system.

Dell-Installed Windows® 95 Service Release 2

NOTE: The following instructions are for the Windows 95 32-bit NDIS 3.0 driver. See “Using the NDIS 2.01 Driver With Windows 95” for information on using the 16-bit NDIS 2.01 driver with Windows 95.

To reinstall the NIC driver in a system running Dell-installed Windows 95 Service Release 2, perform the following steps:

1. Use the Dell DiskMaker program to make a diskette copy of the NIC drivers installed on your hard-disk drive.
   See "Backing Up Drivers and Utilities" in the online *System User's Guide*.
2. Verify that the integrated NIC is enabled and connected to its network.
   See Chapter 2, “Using the System Setup Program,” in the *Reference and Installation Guide* for more information.
3. Start the Windows 95 operating system.
4. Click the Start menu, point to Settings, and click Control Panel. Then double-click the System icon.
5. In the System Properties window, click the Device Manager tab.
6. In the list of system devices, double-click Other Devices. Then select PCI Ethernet Controller.
7. Click Properties to access the PCI Ethernet Controller window.
8. Select the Driver tab, and then click Update Driver.
   The Update Device Driver Wizard starts.
9. Insert the NIC driver diskette 2 into drive A, and Select Yes (Recommended).
10. Click Next and then click Finish to access the Insert Disk dialog box.
11. Click OK to access the Copying Files dialog box. Type `a:\`, and then click OK.
    The Windows 95 operating system begins to copy files to the system’s hard-disk drive.
12. Click OK in the Insert Disk dialog box to access the Copying Files dialog box.
13. When you are prompted for the location of additional files, specify the **c:\windows\options\cabs** directory on your hard-disk drive, or the **\win95** directory on your CD-ROM drive. Then click OK to access the System Properties dialog box.
    The Windows 95 operating system finishes copying all of the files to the system’s hard-disk drive.
14. When the System Settings Change dialog box appears, remove the diskette from drive A and click Yes to restart the system.
15. When the system restarts, the Enter Network Password dialog box appears. Enter the username and password you want to use for network access.
    See your Windows 95 documentation for information about usernames and passwords.

Using the NDIS 2.01 Driver With Windows® 95

To install the 16-bit NDIS 2.01 NIC driver in systems running Dell-installed Windows 95, Dell-installed Windows 95 Service Release 1, Dell-installed Windows 95 Service Release 2, or a Windows 95 operating system not installed by Dell, perform the following steps:

1. Install the Windows 95 NIC driver.
2. Click the Start menu, point to Settings, and click the Control Panel. Then double-click the Network icon.
3. In the Network window, select 3Com Fast EtherLink XL 10/100Mb TX Ethernet Adapter, and then click Properties.
   Select Real Mode (16bit) NDIS driver, and click OK to return to the Network window.
4. Click OK, and then click Yes to restart your system.

Configuring the MS-DOS® NIC Driver

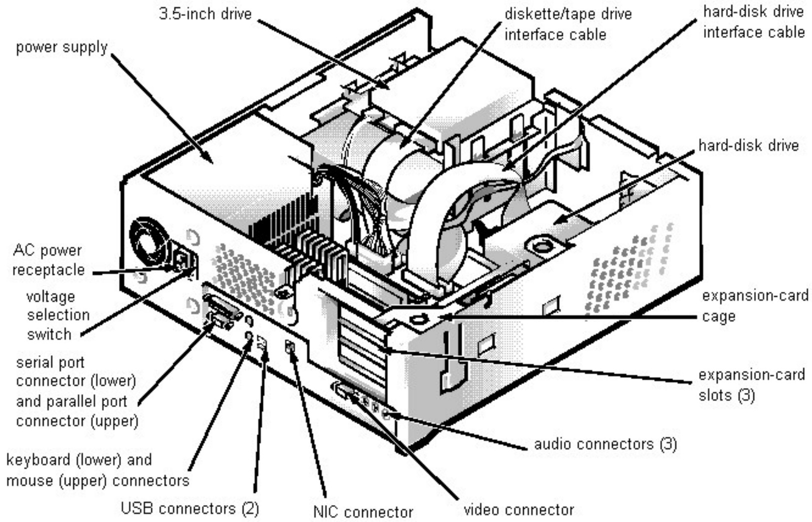
To connect your system to and configure it for use on an Ethernet network, perform the following steps:

1. Use the Dell DiskMaker program (located in the Dell Accessories folder) to make a diskette copy of the NIC drivers installed on your hard-disk drive.
2. Connect the network cable to the back of your computer.
   See “Network Cable Requirements” in the *Reference and Installation Guide* for more information.
3. Verify that the NIC is enabled in the System Setup program.
   See Chapter 2, “Using the System Setup Program,” in the *Reference and Installation Guide* for more information.
4. Configure the NIC, and install the network drivers by running the 3Com Install program (install.exe), located on the NIC driver diskette 1.
5. Run the Network Interface Test Group (3c90xcfg.exe), located on the NIC driver diskette 1, to verify that the NIC is operating properly.

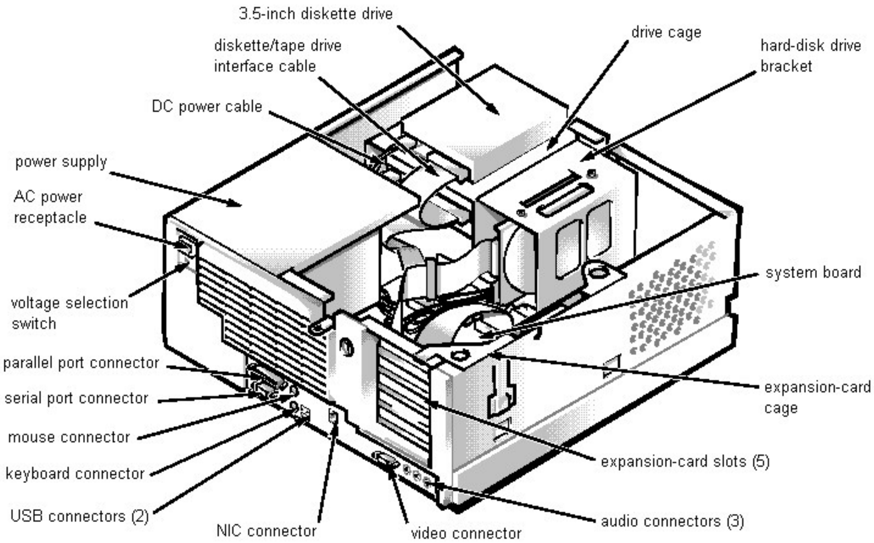
Graphics: OptiPlex GX*i*

Additional graphics can be found in the Removing and Replacing Parts and Power Supply sections.

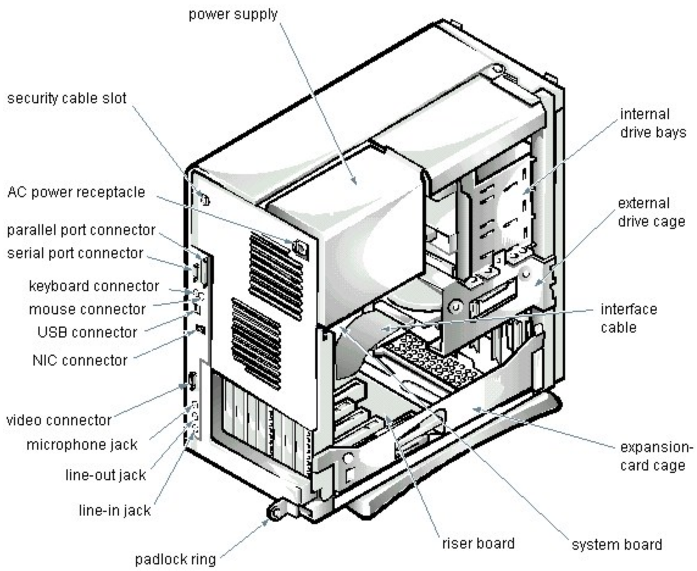
Internal View of the Low-Profile Computer: OptiPlex GX*i*



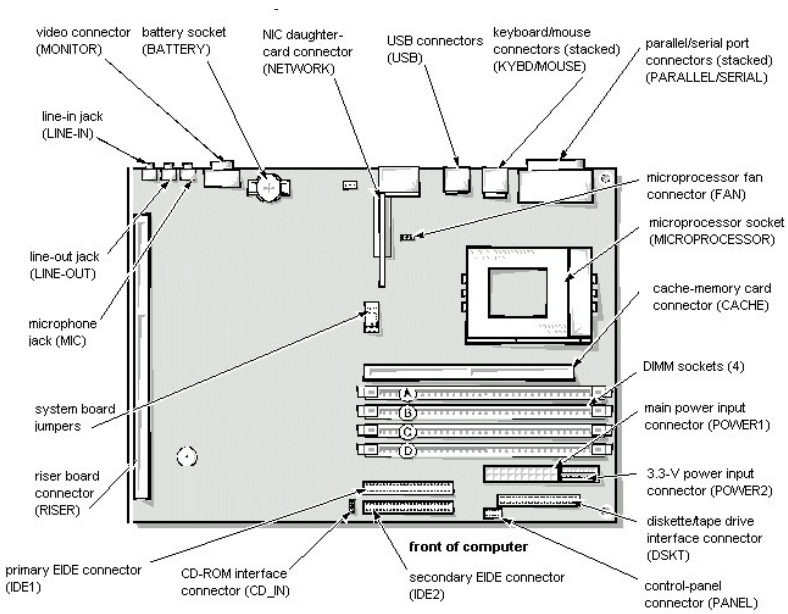
Internal View of the Midsize Computer: OptiPlex GX*i*



Internal View of the Mini Tower Computer: OptiPlex GX*i*



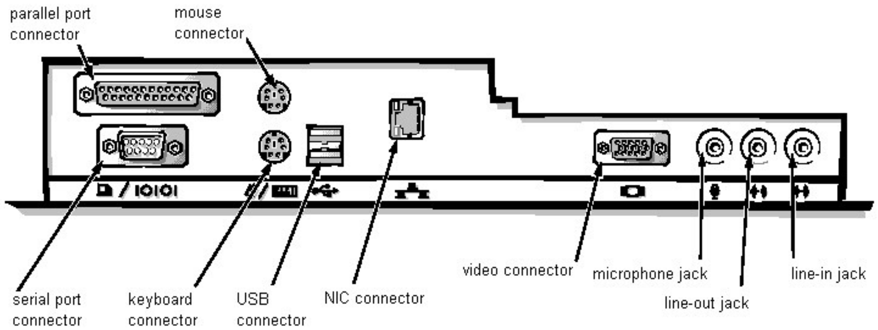
System Board: OptiPlex GX*i*



I/O Map: OptiPlex GX*i*

Address	Device
0000 - 000F	DMA controller #1
0020 - 003F	Interrupt controller #1
0040 - 0043	System timers
0044 - 005F	Reserved
0060 - 006F	Keyboard controller
0070 - 0071	RTC and NMI enable
0080 - 008F	DMA page registers
00A0 - 00BF	Interrupt controller #2
00C0 - 00DF	DMA controller #2
00F0	Coprocessor busy clear
00F1	Coprocessor busy reset
00F2 - 00FF	Available
278 - 27F	LPT2
2E8 - 2EF	COM4
2F8 - 2FF	COM2
378 - 37F	LPT1
3E8 - 3EF	COM3
3F8 - 3FF	COM1

I/O Ports and Connectors: OptiPlex GX*i*



IRQ Assignments: OptiPlex GX*i*

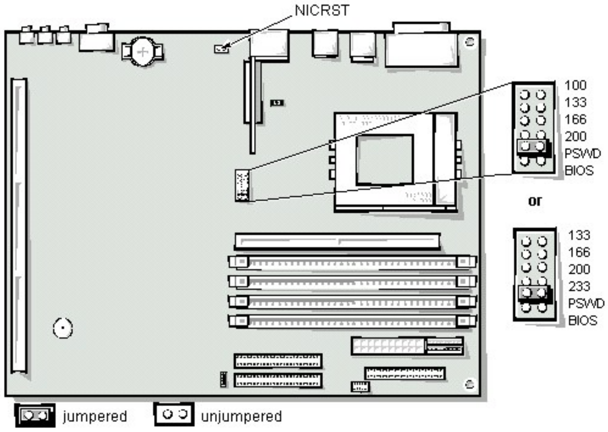
IRQ Line	System Resource	IRQ Line	System Resource
IRQ0	System timer	IRQ8	RTC
IRQ1	Keyboard port	IRQ9	Video controller
IRQ2	Enables IRQ8 through IRQ15	IRQ10	Available
IRQ3	Available[1]	IRQ11	NIC/default PCI IRQ[2]
IRQ4	Serial port	IRQ12	Mouse port
IRQ5	Audio Controller	IRQ13	Math coprocessor
IRQ6	Diskette/tape drive controller	IRQ14	Primary EIDE channel
IRQ7	Parallel port	IRQ15	Secondary EIDE channel

[1] *IRQ3 is available provided that no other device in the computer (such as a modem) is using COM2 or COM4.*
[2] *If an ISA expansion card is configured for IRQ11, the NIC or PCI IRQ is assigned to another available IRQ line.*

body

</bod

Jumpers



= jumpered
= unjumpered

BIOS	(default)	Reserved. *Do not change.*
NICRST	(default)	Reserved. *Do not change.*
PSWD	(default)	The password features are enabled. The password features are disabled.
100		Reserved. *Do not change.*
133*		Jumpered when the processor's internal speed is 133 MHz.
166*		Jumpered when the processor's internal speed is 166 MHz.
200*		Jumpered when the processor's internal speed is 200 MHz.
233*		Jumpered when the processor's internal speed is 233 MHz.

*One set of the speed jumper pins must have a jumper plug installed; otherwise, the system operates at an undetermined speed.

NOTE: When upgrading to a 233-MHz microprocessor, set the jumper to 100 MHz on system board part number 81004.

Memory: OptiPlex GX*i*

[Installation Guidelines](#) | [Configuration Options](#) | [Memory Map](#) |

Installation Guidelines

The 4 DIMM sockets on the system board can accommodate combinations of 8-, 16-, 32-, 64-, and 128-MB DIMMs up to a total memory capacity of 512 MB.

NOTE: Only nonparity 8-, 16-, and 32-MB DIMMs are available.

Main memory can have either 72-bit parity ECC DIMMs or 64-bit nonparity DIMMs. The DIMMs can have different capacities, but they must adhere to the following installation rules:

- The largest-capacity DIMM must be in socket DIMM_A with decreasing capacities toward socket DIMM_D.
- ECC functionality is enabled when all installed DIMMs are 72-bit parity DIMMs and the ECC category is set to On in the System Setup program.

Configuration Options

Total	DIMM_A	DIMM_B	DIMM_C	DIMM_D
16 MB	16 MB			
24 MB	16 MB	8 MB		
32 MB	32 MB			
40 MB	32 MB	8 MB		
48 MB	32 MB	16 MB		
56 MB	32 MB	16 MB	8 MB	
64 MB	64 MB			
64 MB	32 MB	32 MB		
72 MB	32 MB	32 MB	8 MB	
80 MB	32 MB	32 MB	16 MB	
88 MB	32 MB	32 MB	16 MB	8 MB
96 MB	32 MB	32 MB	32 MB	
104 MB	32 MB	32 MB	32 MB	8 MB
112 MB	32 MB	32 MB	32 MB	16 MB
128 MB	128 MB			
128 MB	32 MB	32 MB	32 MB	32 MB
192 MB	128 MB	64 MB		
256 MB	128 MB	128 MB		
320 MB	128 MB	128 MB	64 MB	
384 MB	128 MB	128 MB	128 MB	
448 MB	128 MB	128 MB	128 MB	64 MB
512 MB	128 MB	128 MB	128 MB	128 MB

Memory Map

Memory Range	Address Range	Size	Description
1024–131072 KB	100000–8000000h	127 MB	Extended memory
960–1023 KB	F0000–FFFFFh	64 KB	System BIOS
800–959 KB	C8000–EFFFFh	160 KB	Available high memory

640–799 KB	A0000–C7FFFh	160 KB	Video memory and BIOS
639 KB	9FC00–9FFFFh	1 KB	Extended BIOS data
0–638 KB	00000–9FBFFh	639 KB	Conventional memory

System Error Messages: OptiPlex GX*i*

This section lists (in alphabetical order) system error messages that can appear on the monitor screen. These messages can help you find the source of a problem. Some of these error messages indicate fatal errors. When a fatal error occurs, the system cannot usually be rebooted until an appropriate hardware change has been made.

Message	Definition	Probable Causes
`Address mark not found`	BIOS found faulty disk sector or could not find particular disk sector.	Faulty diskette/tape drive subsystem or hard-disk drive subsystem (defective system board).
`Attachment failed to respond`	Diskette drive or hard-disk drive controller cannot send data to associated drive.	Faulty interface cable or connector.
`Bad command or file name`	Command entered does not exist or is not in pathname specified.	Bad command.
`Bad error-correction code(ECC) on disk read`	Diskette drive or hard-disk drive controller detected uncorrectable read error. Indicates a fatal error.	Faulty diskette/tape drive subsystem or hard-disk drive subsystem (defective system board).
`Controller has failed`	Hard-disk drive or associated controller defective. Indicates a fatal error.	Faulty diskette/tape drive subsystem or hard-disk drive subsystem (defective system board).
`Data error`	System received unrecoverable data-read error from diskette or hard-disk drive. Indicates a fatal error.	Faulty diskette, diskette drive, or hard-disk drive.
`Decreasing available memory`	Read/write failure during POST prevents system from using available memory.	One or more DIMMs faulty or improperly seated.
`Diskette drive 0 seek failure` `Diskette drive 1 seek failure`	Diskette/tape drive controller could not locate specific sector or track.	Faulty or improperly inserted diskette, incorrect configuration settings in System Setup program, loose diskette/tape drive interface cable, or loose power cable.
`Diskette read failure`	Failure occurred while system attempted to read diskette.	Faulty diskette, faulty or improperly connected diskette/tape drive interface cable, or loose power cable.
`Diskette subsystem reset failed`	System could not successfully issue reset command to diskette controller.	Faulty diskette/tape drive controller (defective system board).
`Diskette write protected`	Diskette write-protect feature activated.	Diskette write-protected.
`Drive not ready`	Diskette missing from or improperly inserted in diskette drive.	Defective, unformatted, or improperly inserted diskette.
`Gate A20 failure`	Gate A20 of the keyboard controller malfunctioned. Indicates a fatal error.	Faulty keyboard controller (defective system board).
`General failure`	Operating system cannot execute command.	Operating system corrupted or not installed properly.
`Hard disk controller failure` `Hard disk drive read failure` `Hard disk failure`	Hard-disk drive failed to initialize. Indicates a fatal error.	Incorrect configuration settings in System Setup program, improperly connected hard-disk drive cable, faulty hard-disk drive controller subsystem (defective system board), or loose power cable.
`Invalid configuration information - please run SETUP program`	System Setup program contains incorrect system configuration settings.	Incorrect configuration settings in System Setup program or faulty battery.
`Keyboard clock line failure` `Keyboard failure`	System cannot communicate with keyboard. Indicates a fatal error.	Keyboard cable connector loose or improperly connected, defective keyboard, or defective keyboard/mouse controller (defective system board).
`Keyboard controller failure`	Keyboard/mouse controller failed. Indicates a fatal error.	Defective keyboard/mouse controller (defective system board).
`Keyboard data line failure` `Keyboard stuck key failure`	System cannot communicate with keyboard. Indicates a fatal error.	Keyboard cable connector loose or improperly connected, defective keyboard, or defective keyboard/mouse

		controller (defective system board).
`Memory address line failure at` *`address`*`, read` *`value`* `expecting` *`value`* `Memory data line failure at` *`address`*`, read` *`value`* `expecting` *`value`* `Memory double word logic failure at` *`address`*`, read` *`value`* `expecting` *`value`* `Memory odd/even logic failure at` *`address`*`, read` *`value`* `expecting` *`value`* `Memory write/read failure at` *`address`*`, read` *`value`* `expecting` *`value`*	During memory test, *value* read at *address* was incorrect.	Faulty or improperly seated DIMMs or defective system board.
`Memory allocation error`	Software in use conflicts with operating system, application program, or utility.	Faulty application program or utility.
`Memory tests terminated by keystroke`	Memory test did not complete.	POST memory test terminated by pressing <Spacebar>.
`No boot device available`	System does not recognize diskette drive or hard-disk drive from which it is trying to boot.	Faulty diskette, diskette/tape drive subsystem, hard-disk drive, hard-disk drive subsystem, or no boot disk in drive A.
`No boot sector on hard-disk drive`	Configuration settings in System Setup program incorrect, or operating system corrupted.	Incorrect configuration settings in System Setup program, or no operating system on hard-disk drive.
`No timer tick interrupt`	Timer on system board malfunctioning. Indicates a fatal error.	Defective system board.
`Non-system disk or disk error`	Diskette in drive A or hard-disk drive does not have bootable operating system installed on it.	Faulty diskette, diskette/tape drive subsystem, or hard-disk drive subsystem.
`Not a boot diskette`	No operating system on diskette.	No operating system on diskette.
`Plug and Play Configuration Error`	System encountered problem in trying to configure one or more expansion cards.	System resource conflict.
`Read fault` `Requested sector not found`	MS-DOS® cannot read from diskette or hard-disk drive. System could not find particular sector on disk, or requested sector defective.	Faulty diskette, diskette/tape drive subsystem, or hard-disk drive subsystem (defective system board).
`Reset failed`	Disk reset operation failed.	Improperly connected diskette/tape drive, hard-disk drive interface cable, or power cable.
`Sector not found`	MS-DOS unable to locate sector on diskette or hard-disk drive.	Defective sectors on diskette or hard-disk drive.
`Seek error`	MS-DOS unable to locate specific track on diskette or hard-disk drive.	Defective diskette or hard-disk drive.
`Seek operation failed`	System could not find particular address mark on disk.	Faulty diskette or hard-disk drive.
`Shutdown failure`	System board chip faulty. Indicates a fatal error.	Defective system board.
`Time-of-day clock stopped`	System battery low.	Defective battery or faulty chip (defective system board).
`Time-of-day not set`	Time or date setting in System Setup program incorrect, or system battery bad.	Incorrect Time or Date settings, or defective system battery.
`Timer chip counter 2 failed`	Timer circuit on system board	Defective system board.

	malfunctioning. Indicates a fatal error.	
Unexpected interrupt in protected mode	Keyboard/mouse controller malfunctioning, or one or more DIMMs improperly seated. Indicates a fatal error.	Improperly seated DIMMs or faulty keyboard/mouse controller chip (defective system board).
WARNING: Dell's Disk Monitoring System has detected that drive [0/1] on the [primary/secondary] EIDE controller is operating outside of normal specifications. It is advisable to immediately back up your data and replace your hard-disk drive by calling your support desk or Dell Computer Corporation.	POST queried EIDE drive for status. Drive detected possible error conditions.	Unreliable or defective drive.
Write fault Write fault on selected drive	MS-DOS cannot write to diskette or hard-disk drive.	Faulty diskette or hard-disk drive.

New Microprocessor Options: OptiPlex GX*i*

Dell offers the OptiPlex GX*i* system with 166-, 200-, or 233-MHz Intel® Pentium® microprocessors with MMX™ technology.

The Pentium microprocessor with MMX technology is specifically designed to handle complex multimedia and communications software. This microprocessor includes new instructions and data types as well as a technique called Single Instruction, Multiple Data (SIMD) that allows the microprocessor to process multiple data elements in parallel, thereby improving overall system performance. The Pentium microprocessor with MMX technology has twice the internal cache memory (32 KB) as the standard Pentium microprocessor.

CAUTION: The Pentium microprocessor with MMX technology has different voltage requirements than other Pentium microprocessors. Do not install a Pentium microprocessor with MMX technology in a Dell OptiPlex computer system other than the OptiPlex GX*i* and OptiPlex Gs/Gs+ systems.

The microprocessor-speed jumper settings on the system board are the same for the Pentium microprocessors with MMX technology as for the standard Pentium microprocessors. Current application programs not designed specifically for MMX technology should have a small improvement in performance when run on a Dell OptiPlex GX*i* system that has a Pentium microprocessor with MMX technology. Software written specifically to take advantage of MMX technology (usually labeled "Designed for Intel MMX") shows greater performance improvement, depending on the type of application program.

Network Interface, OptiPlex Gs and Gs+

The Gs+ systems have a built-in integrated 3Com ® 3C915 Ethernet NIC sub-system. The NIC subsystem connects to an RJ45 connector on the back panel of the computer.

Chapter 4, "Using the Network Interface Controller," in the Reference and Installation Guide provides instructions for connecting the computer to, and configuring it for use on, an Ethernet network.

Reference and Installation Guide (Low profile chassis)
Reference and Installation Guide (Midsize chassis)

NOTE: These files are PDF file format. Requires Adobe Acrobat Reader.

</bod

Cache Memory Card Removal: OptiPlex GXi

<body>

Tech Notes: OptiPlex GX*i*

Removing and Replacing Parts on the Low-Profile Systems

This section provides procedures for removing the components, assemblies, and subassemblies in the OptiPlex GX*i* midsize computer.

Unless otherwise noted, each procedure assumes the following:

- You have performed the steps in Precautionary Measures.
- You have removed the computer cover.
- You can replace or reinstall a part by performing the removal procedure in reverse order unless additional information is provided.

PCI-to-PCI Bridging: OptiPlex GX*i*

PCI-to-PCI bridging is supported in this system.

Power Supply: OptiPlex GX*i*

DC Voltage Ranges | DC Power Cables (Low-Profile Chassis) | DC Power Distribution (Low-Profile Chassis) | DC Power Cables (Midsize Chassis) | DC Power Distribution (Midsize Chassis) | DC Power Cables (Mini Tower Chassis) | DC Power Distribution (Mini Tower Chassis)

DC Voltage Ranges

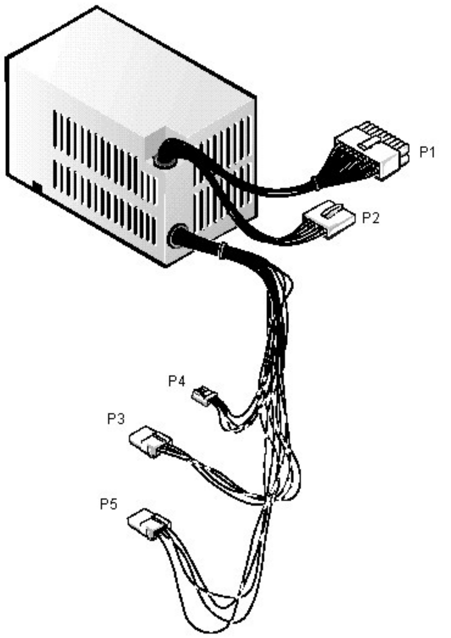
The low-profile chassis has a 145-W system power supply, whereas the midsize and mini tower chassis have a 200-W system power supply. The system power supplies can operate from an AC power source of 115 VAC at 60 Hz or 230 VAC at 50 Hz. The system power supplies provide the DC operating voltages and currents listed in the table below.

NOTE: Each power supply produces DC voltages only under its loaded condition. Therefore, when you measure these voltages, the DC power connectors must be connected to their corresponding power input connectors on the system board or drives.

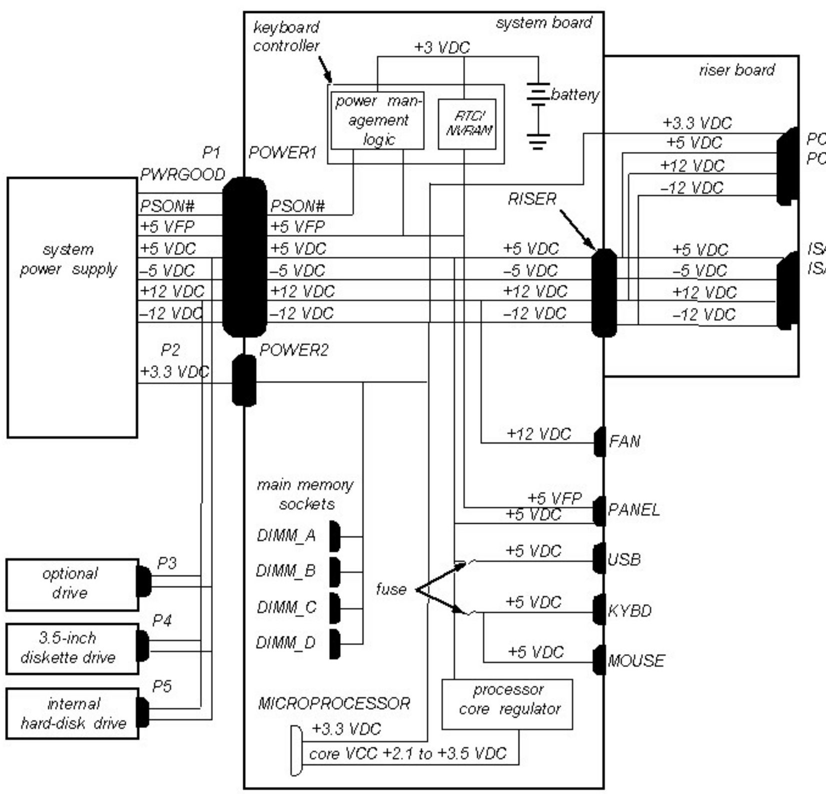
Voltage	**Range**	**Maximum Output Current**
+3.3 VDC	+3.15 to +3.45 VDC	12.0 A[1] (low-profile chassis) 14.0 A[1] (midsize and mini tower chassis)
+5 VDC	+4.75 to +5.25 VDC	18.0 A[1] (low-profile chassis) 22.0 A[1] (midsize and mini tower chassis)
+12 VDC	+11.40 to +12.60 VDC	3.0 A[2] (low-profile chassis) 6.0 A[2] (midsize and mini tower chassis)
-12 VDC	-10.80 to -13.20 VDC	0.3 A
-5 VDC	-4.50 to -5.50 VDC	0.3 A
+5 VFP[3]	+4.75 to +5.25 VDC	10 mA

[1] *The combined load on the +5-VDC and +3.3-VDC outputs cannot exceed 105 W on the low-profile computer or 140 W on the midsize and mini tower chassis.*
[2] *Withstands surges of up to 11.0 A to support disk start-up operations.*
[3] *VFP (volts flea power) — sometimes called "standby power."*

DC Power Cables (Low-Profile Chassis)

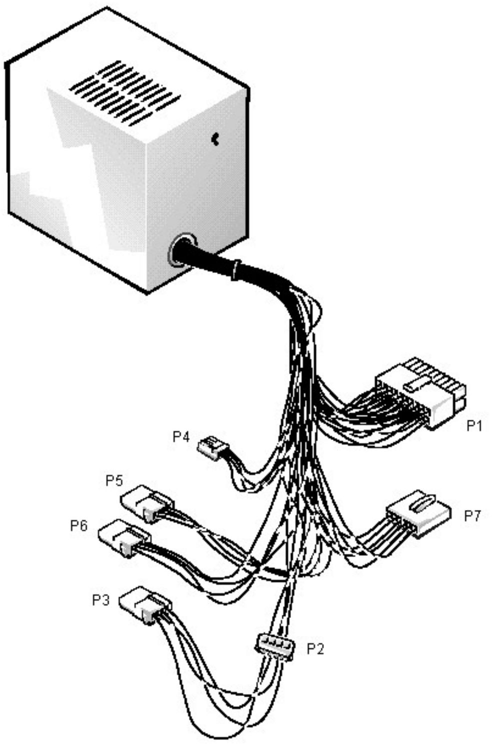


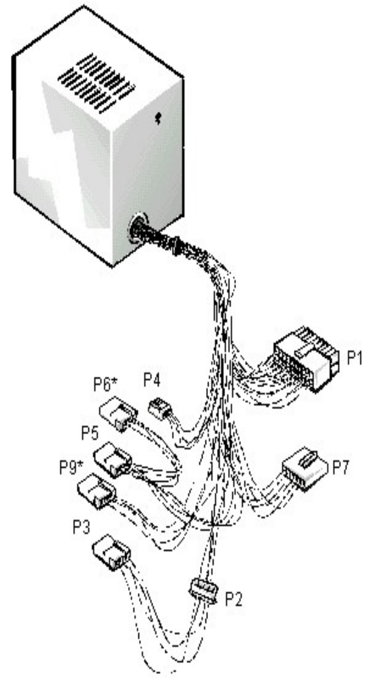
DC Power Distribution (Low-Profile Chassis)



DC Power Cables (Midsize Chassis)

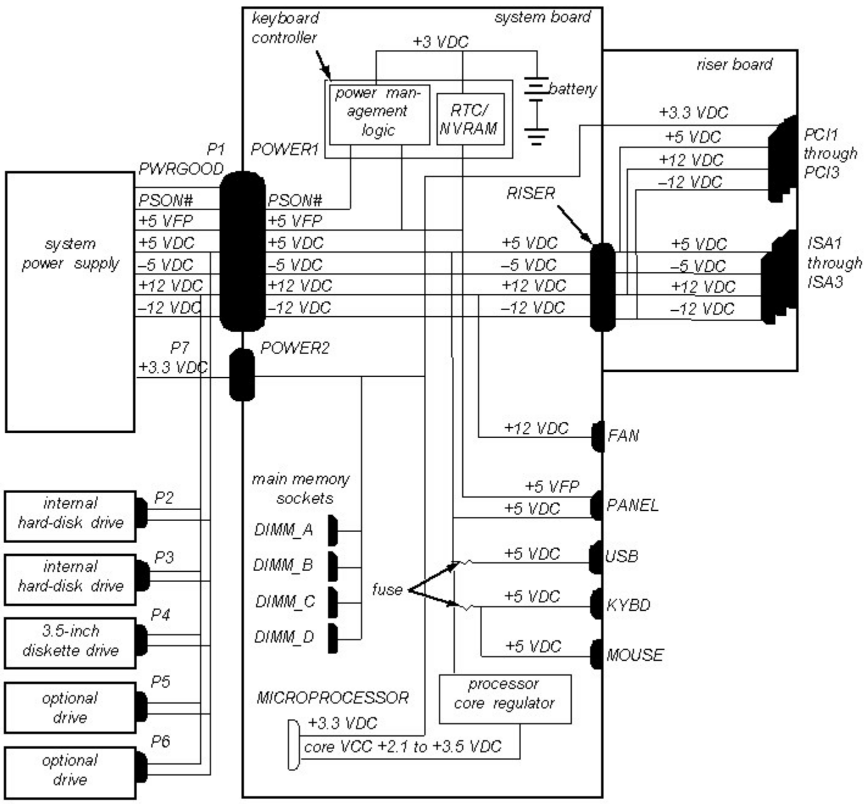
NOTE: Earlier versions of the Optiplex GXi midsize chassis use a differerent power supply than later versions. Both versions are shown here.



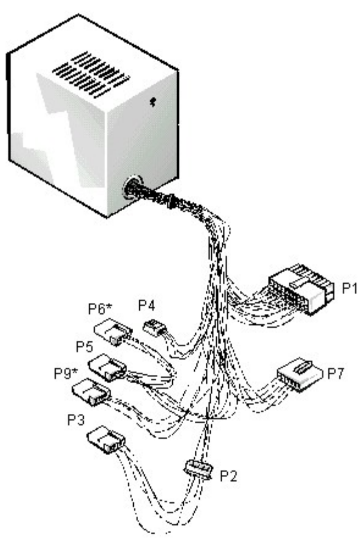


*Connector P6 was not present in earlier midsize computers; in these computers, connector P9 was labeled as P6.

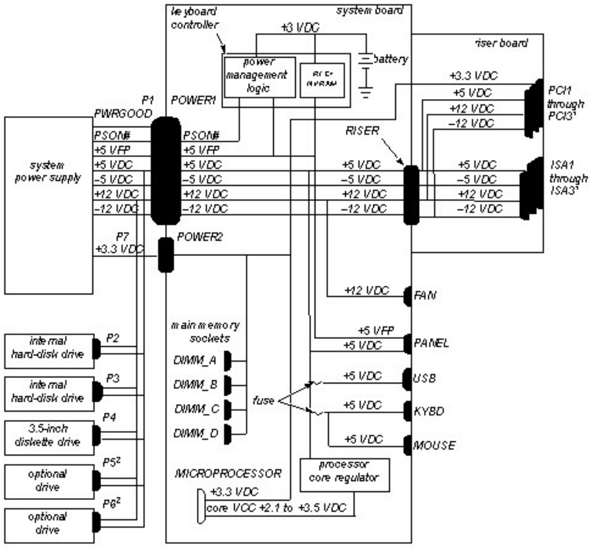
DC Power Distribution (Midsize Chassis)



DC Power Cables (Mini Tower Chassis)



DC Power Distribution (Mini Tower Chassis)



1 *A second riser board option provides two additional PCI connectors (PCI4 and PCI5) and only two ISA connectors (ISA1 and ISA2).*

2 *Some computers have an additional connector (P9) that may be used instead of P5 or P6.*

Search and replace on , Dell& 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\UNTITLED.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\PRODNTS.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\PARTSL.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\MEMORY.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR7L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\IRQ.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\CONTROLS.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\IOMAP.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\STORAGE.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\GRAPHICS.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR6L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\GS14.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RISER.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\PRODUCTI.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\POWER.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\GSYSB.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\REMOVING.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR5.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\SETUP.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\BEEP.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\DRIVERS.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\IOPORTS.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\JUMPERS.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\NETWORK.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR15.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\BIRDSEED.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR5L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR13.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR10.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR8.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR4.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR4L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR17L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR10L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR8L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR16.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR17.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\SPECS.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR1.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR3.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR14.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR12L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR11L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\INDEX.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\DMA.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\NOTES.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\VIDEO.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\GS13.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR9L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR6.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR7.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\MESSAGES.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR9.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR11.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR12.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\DOCS.HTM" --- Search and replace on , Dell 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\UNTITLED.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\PARTSL.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\MEMORY.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR7L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\IRQ.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\CONTROLS.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\IOMAP.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\STORAGE.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\GRAPHICS.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR6L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\GS14.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RISER.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\PRODUCTI.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\POWER.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\GSYSB.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\REMOVING.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR5.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\SETUP.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\BEEP.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\DRIVERS.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\IOPORTS.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\JUMPERS.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\NETWORK.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR15.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\BIRDSEED.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR5L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR13.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR10.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR8.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR4.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR4L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR17L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR10L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR8L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR16.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR17.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\SPECS.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR1.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR3.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR14.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR12L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR11L.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\INDEX.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\DMA.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\NOTES.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\VIDEO.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\GS13.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR9L.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR6.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR7.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\MESSAGES.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR9.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR11.HTM" 0 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\RR12.HTM" 1 replacements made in "R:\DTA\TECHINFO\DTA\SYSTEMS\DALT\DOCS.HTM"

Production Notes

1. Step one for me was to create a flow diagram for the template so I would have a clear picture how all the files were connected. I also used the flow diagram to map any changes I was planning to make to the flow laid out in the template.
2. Created **Specs.htm**.
    - I noticed that the template could use proofing by an editor.
    - I decided to create a production notes htm file for all my notes to myself and the team. Notes only to myself will have a black box in front of them. Notes to the team will have a hollow circle in front of them.
    - Go back and add riser board graphics to specs.htm.
    - We need to decide if we are going to use spacer.gif to create indents, or the indents command. One problem with the graphic is that if the indented text needs to wrap, it won't wrap flush left. Also, if someone has there graphics set to not autoload, each spacer.gif will show up as a big graphics button.
    -
    - Need to decide if footnotes go at the bottom of the page, or the bottom of the subsection to which they apply. Need to decide what font size to use for footnotes.
    - At one point in my work my WSIWIG display started jerking around. I hit Edit\Refresh and it corrected the problem. I've figured out that it is important to refresh regularly or the display starts getting wierd.
    - Maxium shock, operating, doesn't make any sense.
3. Create jumpers.htm. Since we rarely see switches anymore, I think it is better to have a Jumpers section, and a Controls section. There is no reason to combine these two.
    - As I began working on jumpers the question occurs to me--how do we edit the jumper bitmaps.
    - I noticed that in the template we have used the OptiPlex 5xx name a lot in bookmarks and titles. I think it would be better to keep titles and bookmark names generic in the template. Actually I think the whole template could be a lot more generic.
    - While copying and pasting some paragraphs from word to frontpage I noticed a few things. The copy works and looks find in the WSYWIG view, but if you look at the code, the paragraph styles aren't there. So for example, if you copy over the heading "memory", which was a Heading 3 in word, it will not show up as a <H3> in the code. It will show up as a regular paragraph with Memory. This may appear to look ago, but good confuse things. The solution to this problem is to save the Word data as HTML using Internet Assistant, then import the HTML code that Internet Assisntant created.
4.
5. **Memory Installation Guidelines**
6.
7.
8.
9.
10. Miscellaneous Notes
    - When Editors print out a file for editing, they should be printing from Netscape. In Netscape, under File\Page Setup, there is dialoge box that lets you create headers with the Document Title and Document Location, and footers with the document page number, page total and date printed. These should all be used. As an editing check list, make sure the document title is appropriate.
    -
11.

Removing and Replacing Parts: OptiPlex GX*i*

Precautionary Measures | Procedures | Recommended Tools

Precautionary Measures

WARNING FOR YOUR PERSONAL SAFETY AND PROTECTION OF THE EQUIPMENT

Before you remove or replace parts in the system, read the following warning for your personal safety and to prevent damage to the system from ESD.

Before you start to work on the system, perform the following steps in the sequence listed:

1. Turn off the computer and any attached peripherals.
2. Disconnect the computer and any attached peripherals from their power sources to reduce the potential for personal injury.
3. Disconnect any telephone or telecommunications lines from the computer.
4. Wear a wrist grounding strap, and clip it to an unpainted metal surface, such as the padlock ring on the back of the chassis. If a wrist grounding strap is not available, touch an unpainted metal surface on the back of the computer to discharge any static charge from your body.

Procedures

Unless otherwise noted, each procedure assumes the following:

- You have the recommended tools.
- You have performed the steps in Precautionary Measures.
- You have removed the computer cover.
- You can replace or reinstall a part by performing the removal procedure in reverse order unless additional information is provided.

Low-Profile Chassis

Computer Cover Removal
Eject-, Power-, and Reset-Button Removal
Front-Panel Insert Removal
Control Panel Removal
Drive Hardware Removal
System Power-Supply Removal
Expansion-Card Cage Removal
Expansion Card Removal
Riser Board Removal
DIMM Removal and Installation
Cache-Memory Card Removal
NIC Daughter Board Removal
Microprocessor Removal
System Battery Removal
System Board Removal

Midsize Chassis

Floor Stand Removal
Computer Cover Removal
Eject-, Power-, and Reset-Button Removal
Front-Panel Insert Removal
Control Panel Removal
Drive Hardware Removal
System Power-Supply Removal
Expansion-Card Cage Removal
Expansion Card Removal
Riser Board Removal
DIMM Removal and Installation
Cache-Memory Card Removal
NIC Daughter Board Removal
Microprocessor Removal
System Battery Removal
System Board Removal

Mini Tower Chassis

Computer Cover Removal
Front Bezel Removal
Eject-, Power-, and Reset-Button Removal
Front Panel Insert Removal
Control Panel Removal
Drive Hardware Removal
System Power-Supply Removal
Expansion-Card Cage Removal
Expansion Card Removal
Riser Board Removal
DIMM Removal and Installation
Cache-Memory Card Removal
NIC Daughter Board Removal
Microprocessor Removal
System Battery Removal
System Board Removal

Recommended Tools

- Small flat-blade screwdriver
- Wide flat-blade screwdriver
- Number 1 and number 2 Phillips-head screwdrivers
- 1/4-inch nutdriver
- Tweezers or long-nose pliers
- Chip removal tool
- Wrist grounding strap

Expansion Subsystem: OptiPlex GX*i*

ISA Configuration Utility | Low-Profile Chassis Riser Board | Midsize Chassis Riser Board With 3 PCI Slots | Midsize Chassis Riser Board With 5 PCI Slots | Mini-Tower Chassis Riser Board

ISA Configuration Utility

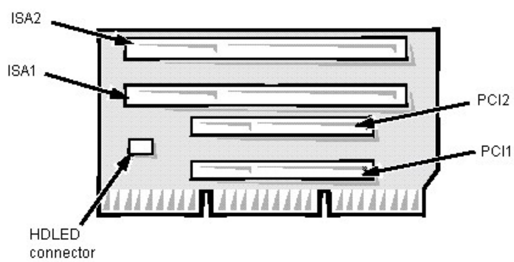
The GX*i* system offers an advanced expansion subsystem that can support a mixture of traditional ISA expansion cards (called *legacy* cards), Plug and Play ISA expansion cards, and PCI expansion cards. The ISA Configuration Utility (ICU) included with the computer provides a means of avoiding resource conflicts that might arise from such an arrangement.

After all legacy cards have been configured with the ICU, the computer automatically assigns any required memory space, IRQ lines, and DMA channels to any installed Plug and Play ISA expansion cards and PCI expansion cards the next time the computer is rebooted. "Configuring Expansion Cards" in the online *System User's Guide* describes the ICU and provides instructions for using it to configure the computer.

NOTES: If the Microsoft® Windows NT® operating system is being used, set any Plug and Play expansion cards to legacy mode using the card manufacturer's configuration utility and enter the card's resources with this utility. Then run the ICU and add the card to the system's configuration.

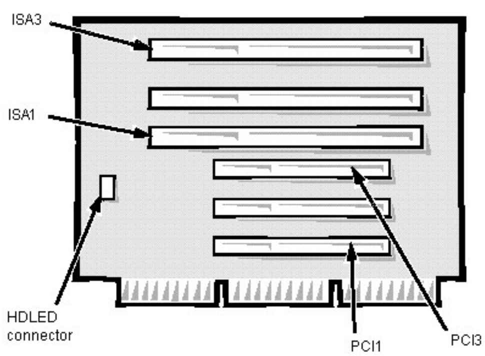
The ICU is not required for the Microsoft Windows® 95 operating system because the same functions are provided by the Device Manager.

Low-Profile Chassis Riser Board



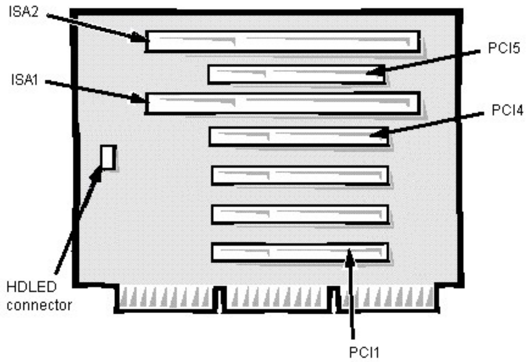
All slots support full-length cards except for PCI1, which is limited to an 8.7-inch-long card because of the height of the hard-disk drive. ISA1 and PCI2 share the same card-slot opening.

Midsize Chassis Riser Board With 3 PCI Slots



All slots support full-length cards. ISA1 and PCI3 share the same card-slot opening.

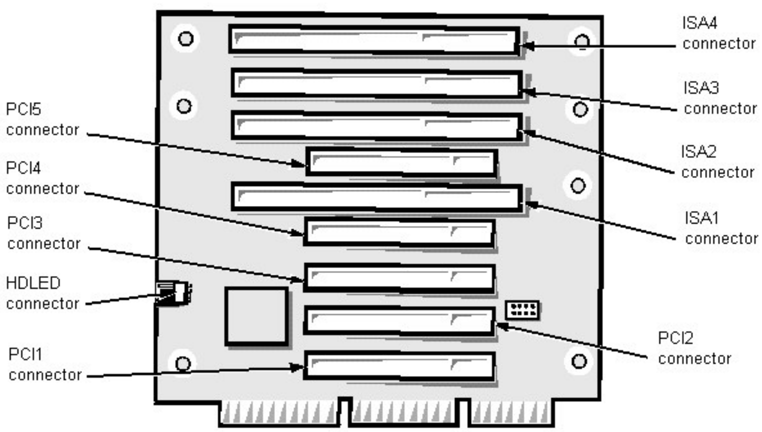
Midsize Chassis Riser Board With 5 PCI Slots



All slots support full-length cards. ISA1 shares its card-slot opening with PCI4, and ISA2 shares its card-slot opening with PCI5.

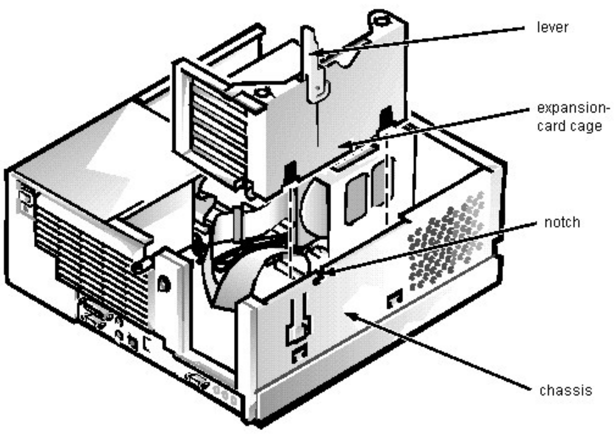
NOTE: This riser board is not available in some locations.

Mini-Tower Chassis Riser Board



All slots support full-length cards. ISA1 shares its card-slot opening with PCI4, and ISA2 shares its card-slot opening with PCI5.

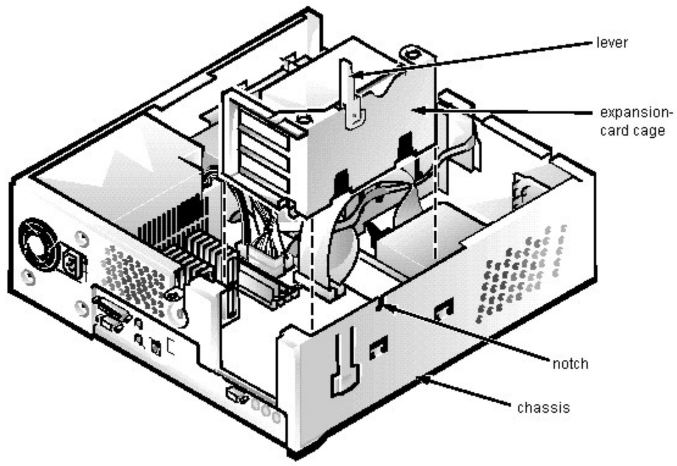
Expansion-Card Cage Removal (Midsize Chassis): OptiPlex GX*i*



1. Rotate the lever toward the back of the computer until it stops in the upright position.
2. Lift the expansion-card cage up and away from the computer.

To replace an expansion-card cage, keep it flush against the chassis to ensure that the lever engages the notch in the chassis when the lever is depressed.

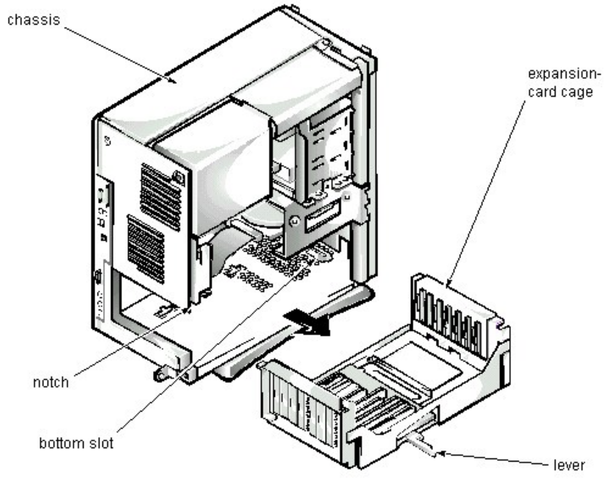
Expansion-Card Cage Removal (Low-Profile Chassis): OptiPlex GX*i*



1. Rotate the lever toward the back of the computer until it stops in the upright position.
2. Lift the expansion-card cage up and away from the computer.

To replace an expansion-card cage, keep it flush against the chassis to ensure that the lever engages the notch in the chassis when the lever is depressed.

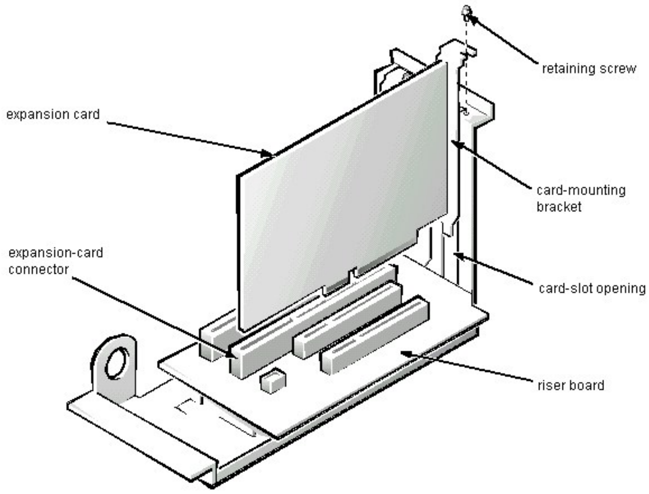
Expansion-Card Cage Removal (Mini Tower Chassis): OptiPlex GX*i*



1. Rotate the lever toward the back of the computer until it stops in the upright position.
2. Slide the expansion-card cage out of the computer..

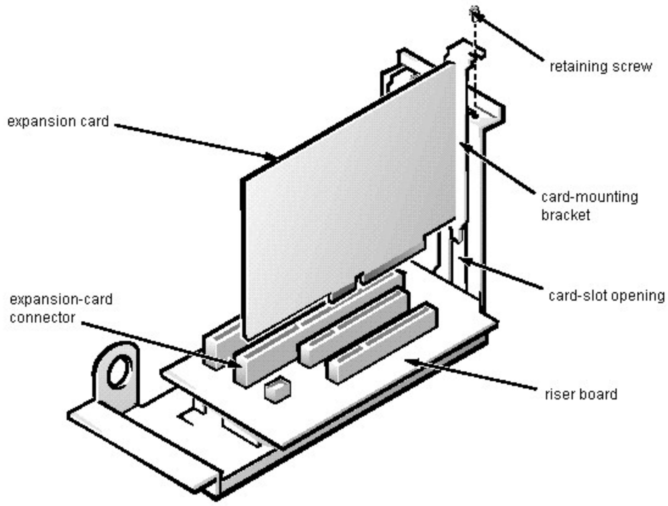
To replace an expansion-card cage, align the tabs on the left and right sides of the expansion-card cage with the slots on the back and bottom of the chassis. With the securing lever in its extended position, slide the expansion-card cage into place.

Expansion Card Removal (Low-Profile Chassis): OptiPlex GX*i*



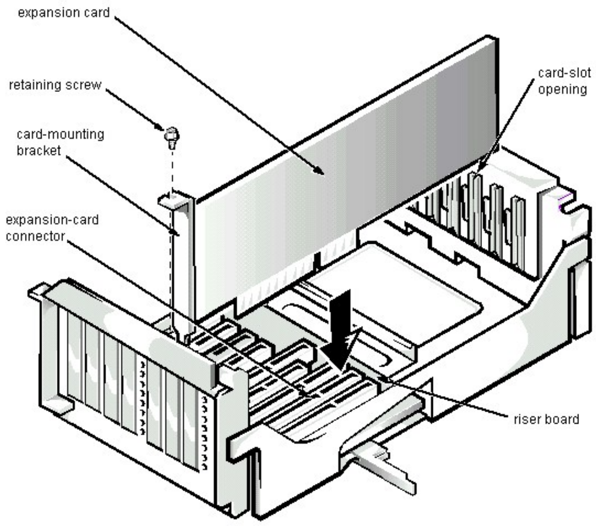
1. Disconnect any cables from the expansion card being removed.
2. Remove the expansion-card cage.
3. Remove the retaining screw from the card-mounting bracket.
4. Grasp the expansion card by its corners, and carefully remove it from the expansion-card connector.

Expansion Card Removal: OptiPlex GX*i*



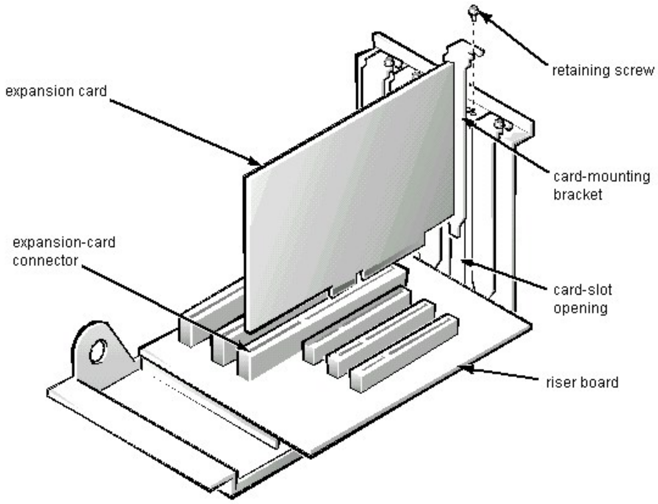
1. Disconnect any cables from the expansion card being removed.
2. Remove the expansion-card cage.
3. Remove the retaining screw from the card-mounting bracket.
4. Grasp the expansion card by its corners, and carefully remove it from the expansion-card connector.

Expansion Card Removal: OptiPlex GX*i*



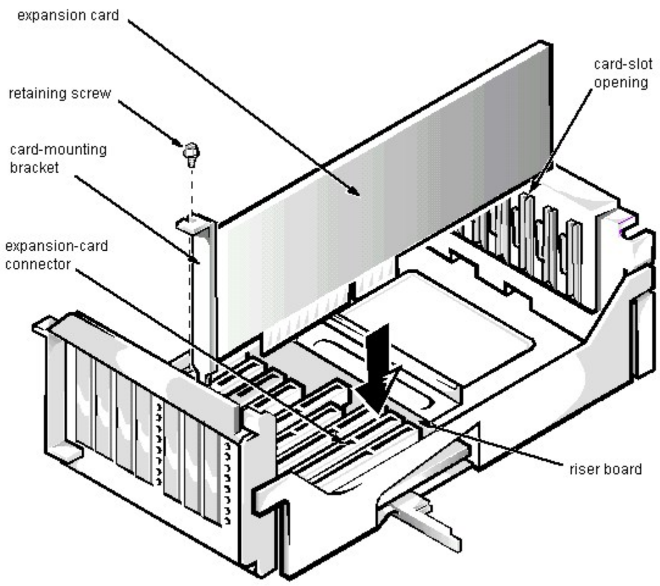
1. Disconnect any cables from the expansion card being removed.
2. Remove the expansion-card cage.
3. Remove the retaining screw from the card-mounting bracket.
4. Grasp the expansion card by its corners, and carefully remove it from the expansion-card connector.

Expansion Card Removal (Midsize Chassis): OptiPlex GX*i*



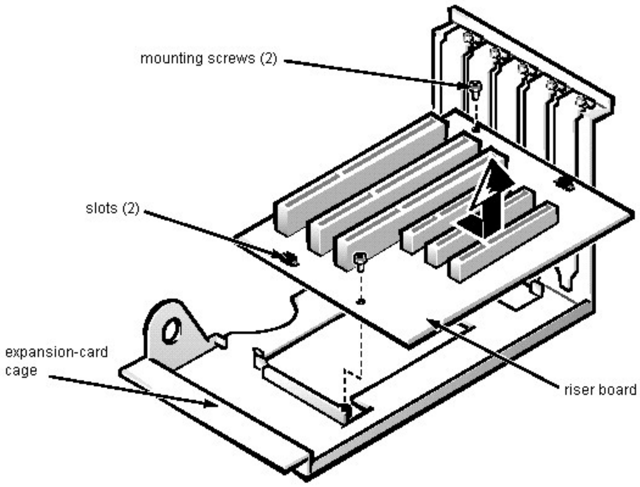
1. Disconnect any cables from the expansion card being removed.
2. Remove the expansion-card cage.
3. Remove the retaining screw from the card-mounting bracket.
4. Grasp the expansion card by its corners, and carefully remove it from the expansion-card connector.

Expansion Card Removal (Mini Tower Chassis): OptiPlex GX*i*



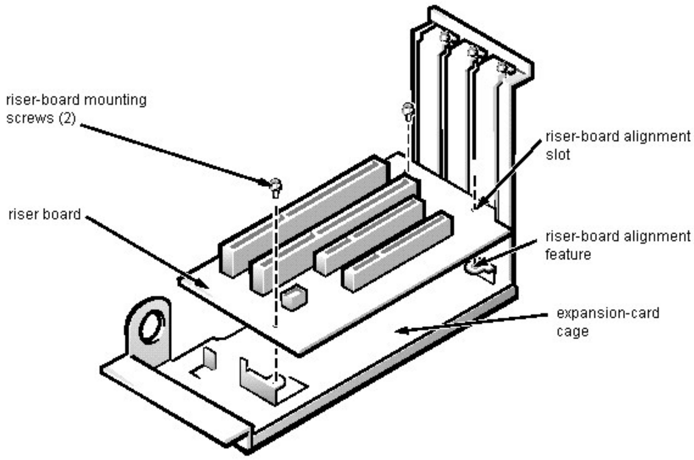
1. Disconnect any cables from the expansion card being removed.
2. Remove the expansion-card cage.
3. Remove the retaining screw from the card-mounting bracket.
4. Grasp the expansion card by its corners, and carefully remove it from the expansion-card connector.

Riser Board Removal (Midsize Chassis): OptiPlex GX*i*



1. Remove the expansion-card cage and all expansion cards.
2. Lay the expansion-card cage on a flat work surface with the riser board facing up.
3. Remove the two riser-board mounting screws.
4. Slide the riser board until it stops; then lift the riser board away from the expansion-card cage.

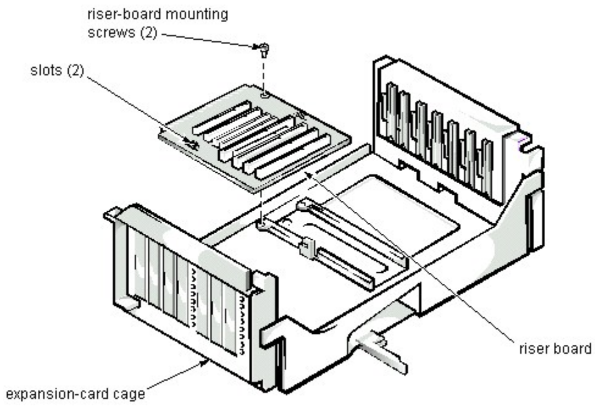
Riser Board Removal (Low-Profile Chassis): OptiPlex GX*i*



1. Remove the expansion-card cage and all expansion cards.
2. Lay the expansion-card cage on a flat work surface with the riser board facing up.
3. Remove the two riser-board mounting screws.
4. Lift the riser board away from the expansion-card cage.

When you replace the riser board, be sure the alignment feature on the expansion-card cage engages with the alignment slot on the riser board.

Riser Board Removal (Mini Tower Chassis): OptiPlex GX*i*

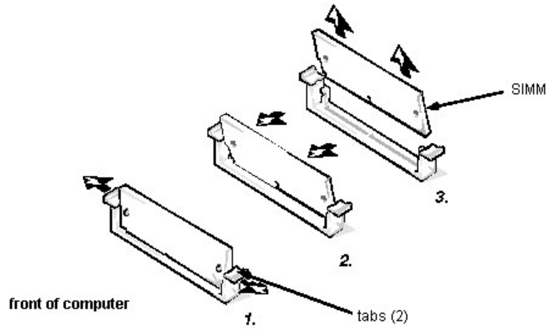


1. Remove the expansion-card cage and all expansion cards.
2. Place the expansion-card cage on a flat work surface with the riser board facing up.
3. Remove the two riser-board mounting screws.
4. Slide the riser board away from the release handle until it stops; then lift the riser board away from the expansion-card cage.

SIMM Removal and Installation: OptiPlex GX*i*

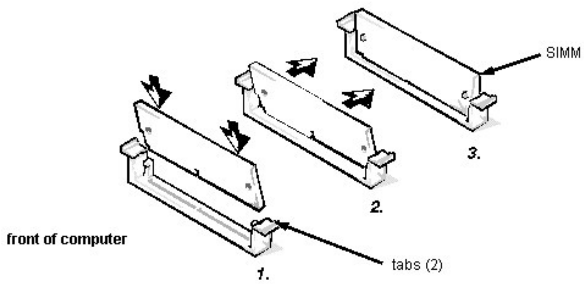
SIMM Removal | SIMM Installation

SIMM Removal



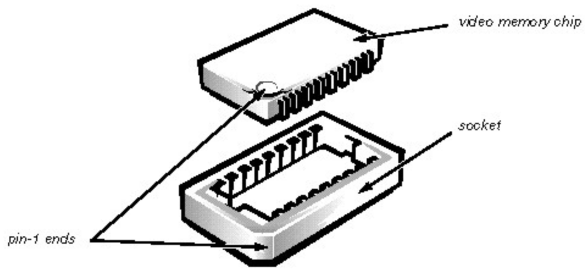
1. Push outward on the SIMM socket's tabs until the SIMM is released from its socket. It should pop forward slightly.
2. Lift the SIMM away from the socket.

SIMM Installation



To replace a SIMM, place the SIMM fully into the socket at an angle. Pivot the SIMM upward until the tabs lock the SIMM into the socket.

Video-Memory Chip Removal: OptiPlex GX*i*



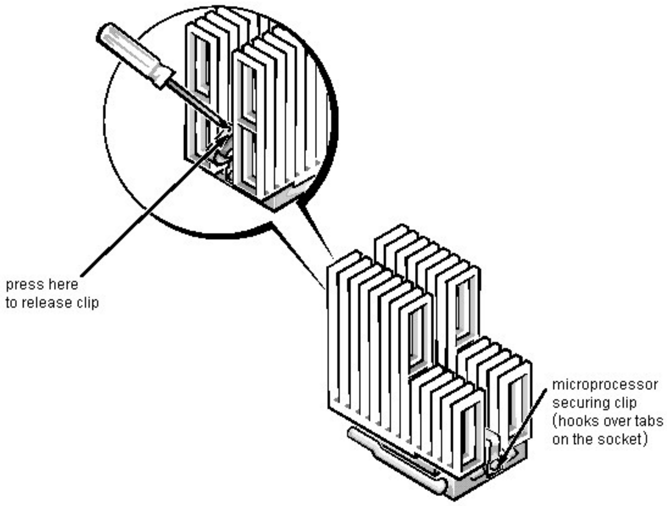
1. Remove the expansion-card cage.
2. Using a chip removal tool, pull straight up on the video memory chip. Be careful not to bend the pins on the chip.

When you replace the video memory chip, be sure to orient pin 1 of the video memory chip with pin 1 of the socket.

Microprocessor Removal (Low-Profile Chassis): OptiPlex GX*i*

[Microprocessor Removal](#) | [New Microprocessor and Heat Sink Assembly](#)

Microprocessor Removal

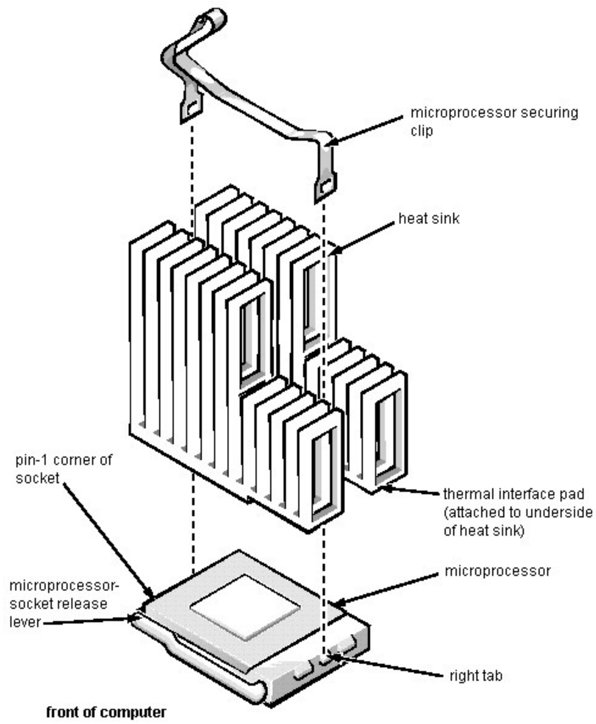


1. Remove the microprocessor securing clip from the microprocessor/heat sink assembly. Then release the heat sink from the microprocessor chip by pressing down on the folded part of the clip with a small screwdriver.

   WARNING: The microprocessor/heat sink assembly can get extremely hot during system operations. Be sure the assembly has had sufficient time to cool before touching it.

2. Push outward and then upward on the microprocessor-socket release lever to rotate the lever to its fully vertical position.
3. Lift the microprocessor chip out of its socket.

New Microprocessor and Heat Sink Assembly



If the replacement heat sink and microprocessor are separate, peel the thermal-pad protective cover off the bottom of the heat sink before attaching the heat sink to the microprocessor.

To install the replacement microprocessor/heat sink assembly, ensure that the microprocessor-socket release lever is in its fully vertical position to allow the microprocessor pins to easily slip into the socket. When the microprocessor/ heat sink assembly is in place, rotate the microprocessor-socket release lever to its horizontal position. Hook the microprocessor securing clip over the socket tab nearest the right side of the system board, and then snap it over the tab on the opposite side of the socket.

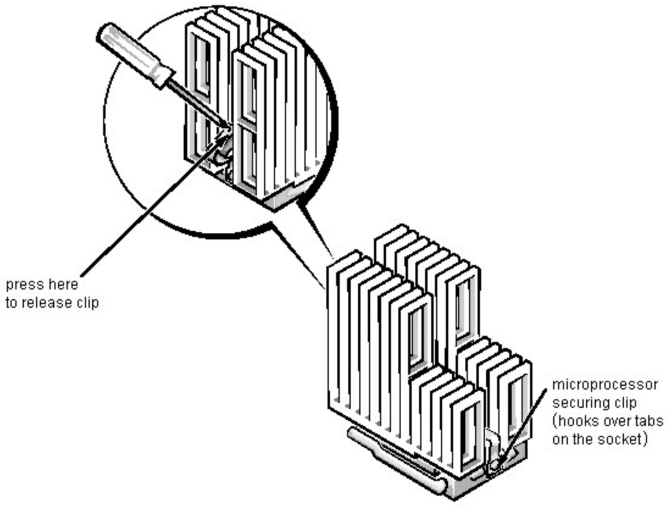
NOTE: Pin 1 on the microprocessor is located on the corner with the largest bevel. The pin-1 hole in the microprocessor socket is located on the corner where the holes are in a diagonal pattern.

Microprocessor Removal (Midsize Chassis): OptiPlex GX*i*

Microprocessor Removal | New Microprocessor and Heat Sink Assembly

---

Microprocessor Removal

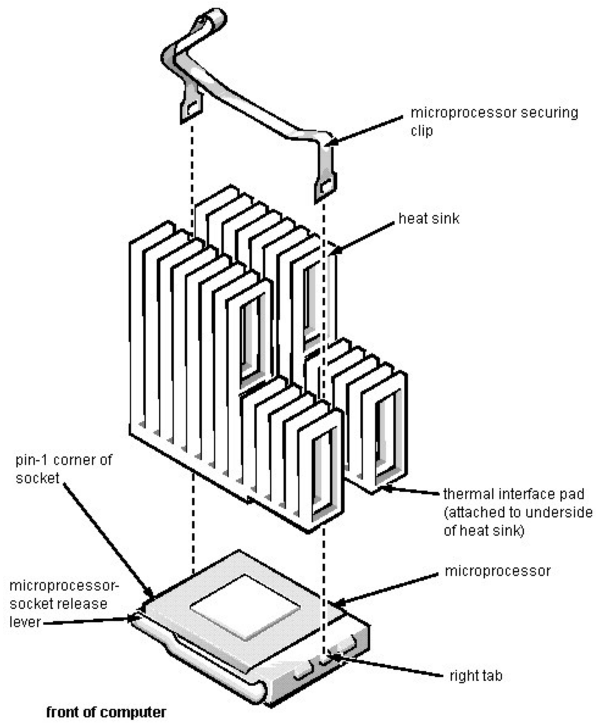


1. Remove the microprocessor securing clip from the microprocessor/heat sink assembly. Then release the heat sink from the microprocessor chip by pressing down on the folded part of the clip with a small screwdriver.

   WARNING: The microprocessor/heat sink assembly can get extremely hot during system operations. Be sure the assembly has had sufficient time to cool before touching it.

2. Push outward and then upward on the microprocessor-socket release lever to rotate the lever to its fully vertical position.
3. Lift the microprocessor chip out of its socket.

New Microprocessor and Heat Sink Assembly



If the replacement heat sink and microprocessor are separate, peel the thermal-pad protective cover off the bottom of the heat sink before attaching the heat sink to the microprocessor.

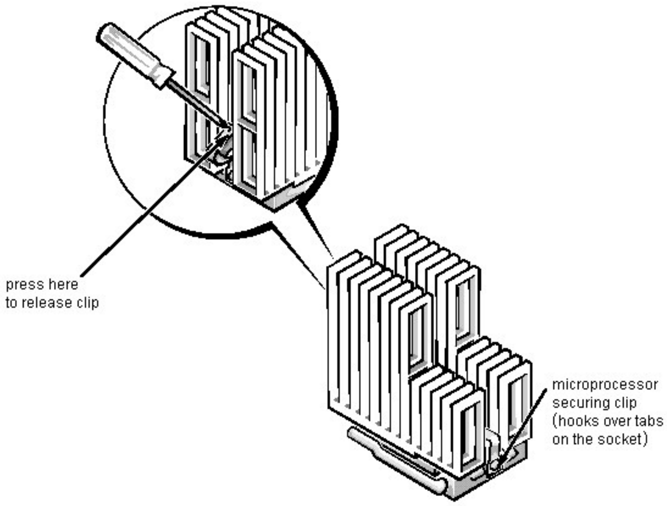
To install the replacement microprocessor/heat sink assembly, ensure that the microprocessor-socket release lever is in its fully vertical position to allow the microprocessor pins to easily slip into the socket. When the microprocessor/ heat sink assembly is in place, rotate the microprocessor-socket release lever to its horizontal position. Hook the microprocessor securing clip over the socket tab nearest the right side of the system board, and then snap it over the tab on the opposite side of the socket.

NOTE: Pin 1 on the microprocessor is located on the corner with the largest bevel. The pin-1 hole in the microprocessor socket is located on the corner where the holes are in a diagonal pattern.

Microprocessor Removal (Mini Tower Chassis): OptiPlex GX*i*

[Microprocessor Removal](#) | [New Microprocessor and Heat Sink Assembly](#)

Microprocessor Removal

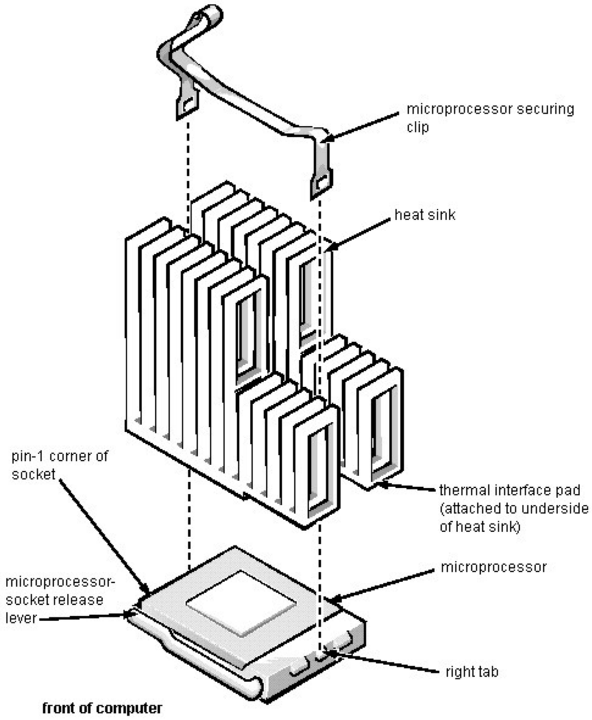


1. Remove the microprocessor securing clip from the microprocessor/heat sink assembly. Then release the heat sink from the microprocessor chip by pressing down on the folded part of the clip with a small screwdriver.

   WARNING: The microprocessor/heat sink assembly can get extremely hot during system operations. Be sure the assembly has had sufficient time to cool before touching it.

2. Push outward and then upward on the microprocessor-socket release lever to rotate the lever to its fully vertical position.
3. Lift the microprocessor chip out of its socket.

New Microprocessor and Heat Sink Assembly



If the replacement heat sink and microprocessor are separate, peel the thermal-pad protective cover off the bottom of the heat sink before attaching the heat sink to the microprocessor.

To install the replacement microprocessor/heat sink assembly, ensure that the microprocessor-socket release lever is in its fully vertical position to allow the microprocessor pins to easily slip into the socket. When the microprocessor/ heat sink assembly is in place, rotate the microprocessor-socket release lever to its horizontal position. Hook the microprocessor securing clip over the socket tab nearest the right side of the system board, and then snap it over the tab on the opposite side of the socket.

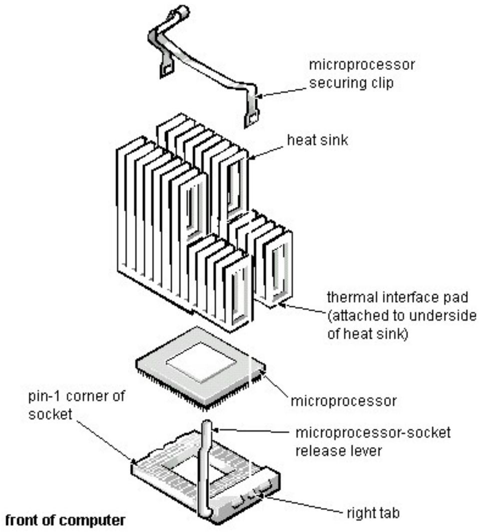
NOTE: Pin 1 on the microprocessor is located on the corner with the largest bevel. The pin-1 hole in the microprocessor socket is located on the corner where the holes are in a diagonal pattern.

Microprocessor Removal: OptiPlex GX*i*

Microprocessor Removal | New Microprocessor and Heat Sink Assembly

---

Microprocessor Removal



1. Unlatch and rotate the power supply up until it locks.
2. Remove the microprocessor securing clip from the microprocessor/heat sink assembly.

   WARNING: The microprocessor/heat sink assembly can get extremely hot during system operations. Be sure the assembly has had sufficient time to cool before touching it.

   Press down on the folded part of the clip with a small screwdriver to release the clip.

3. Push outward and then upward on the microprocessor-socket release lever to rotate the lever to its fully vertical position.
4. Lift the microprocessor/heat sink assembly out of its socket.

New Microprocessor and Heat Sink Assembly

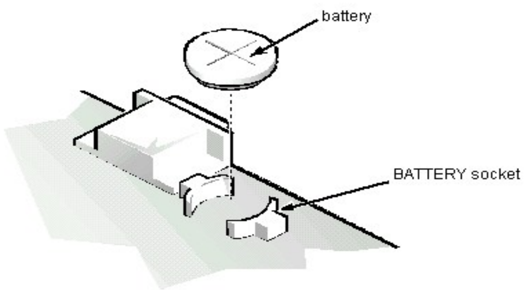
INSERT GRAPHIC HERE

If the heat sink and microprocessor are separate, look at the bottom side of the heat sink, and peel the thermal-pad protective cover off before attaching the heat sink to the microprocessor.

To install the replacement microprocessor/heat sink assembly, ensure that the microprocessor-socket release lever is in its fully vertical position to allow the microprocessor pins to easily slip into the socket. When the microprocessor/ heat sink assembly is in place, rotate the microprocessor-socket release lever to its horizontal position. Hook the microprocessor securing clip over the socket tab nearest the right side of the system board, and then snap it over the tab on the opposite side of the socket.

NOTE: Pin 1 on the microprocessor is located on the corner with the largest bevel. The pin-1 hole in the microprocessor socket is located on the corner where the holes are in a diagonal pattern.

System Battery Removal (Low-Profile Chassis): OptiPlex GX*i*

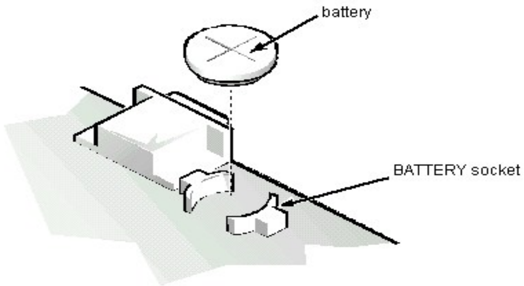


WARNING: There is a danger of the new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

1. If possible, enter the System Setup program, and make a printed copy of the System Setup screens.
2. Remove the expansion-card cage.
3. Remove the system battery.
   Carefully pry the system battery out of its socket with your fingers or with a blunt, nonconducting object, such as a plastic screwdriver.

When you replace the system battery, orient the new battery with the "+" facing up. Insert the battery into its socket and snap it into place. Then restore the system configuration information using the printed copy.

System Battery Removal (Midsize Chassis): OptiPlex GX*i*

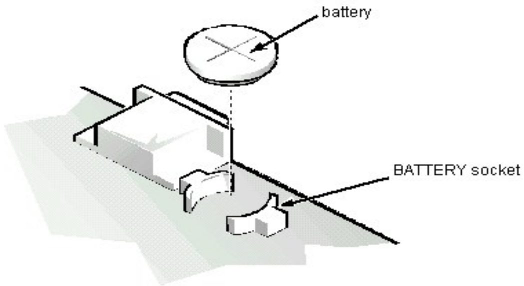


 **WARNING: There is a danger of the new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.**

1. If possible, enter the System Setup program, and make a printed copy of the System Setup screens.
2. Remove the expansion-card cage.
3. Remove the system battery.
   Carefully pry the system battery out of its socket with your fingers or with a blunt, nonconducting object, such as a plastic screwdriver.

When you replace the system battery, orient the new battery with the "+" facing up. Insert the battery into its socket and snap it into place. Then restore the system configuration information using the printed copy.

System Battery Removal (Mini Tower Chassis): OptiPlex GX*i*

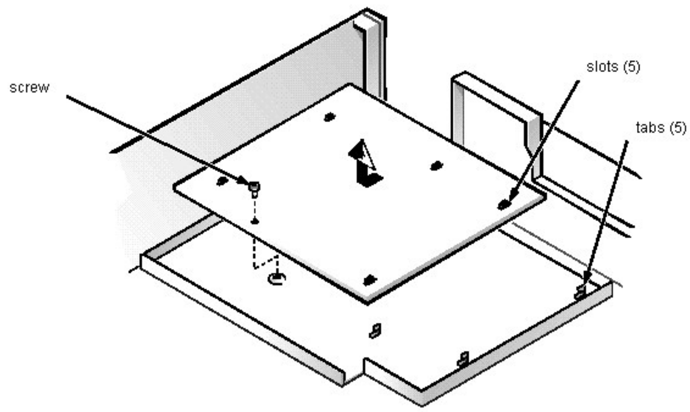


WARNING: There is a danger of the new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

1. If possible, enter the System Setup program, and make a printed copy of the System Setup screens.
2. Remove the expansion-card cage.
3. Remove the system battery.
   Carefully pry the system battery out of its socket with your fingers or with a blunt, nonconducting object, such as a plastic screwdriver.

When you replace the system battery, orient the new battery with the "+" facing up. Insert the battery into its socket and snap it into place. Then restore the system configuration information using the printed copy.

System Board Removal: OptiPlex GX*i*

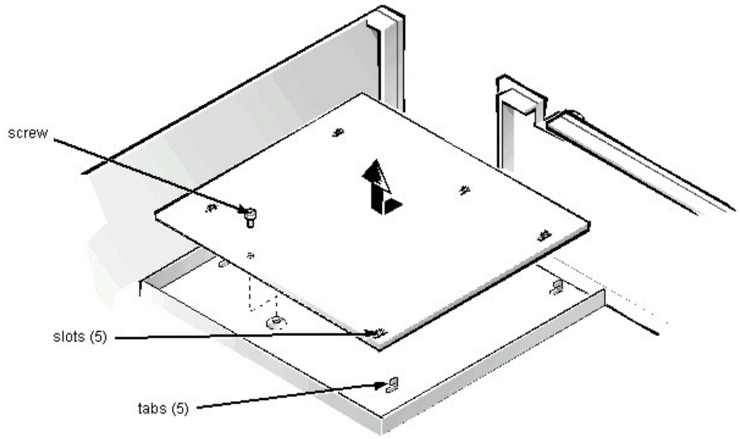


1. Disconnect all cables from their connectors at the back of the computer.
2. Remove the expansion-card cage.
3. Unlatch and rotate the power supply to the right.
4. Disconnect all cables from the system board.
5. Remove the screw that secures the system board to the bottom of the chassis.
6. Slide the system board toward the front of the chassis until it stops.
7. Carefully lift the system board out of the chassis (be sure to lift evenly and not twist the system board).

If you are replacing a system board, remove the DIMMs, cache memory card, NIC daughter board, and microprocessor from the old system board and install them on the replacement board.

When you reinstall the system board, before you slide the system board back to lock it in position, push down near each slot to engage the grounding clip onto its corresponding tab. Push evenly on both sides of the system board as you slide it into position (do not twist the system board).

System Board Removal (Low-Profile Chassis): OptiPlex GX*i*

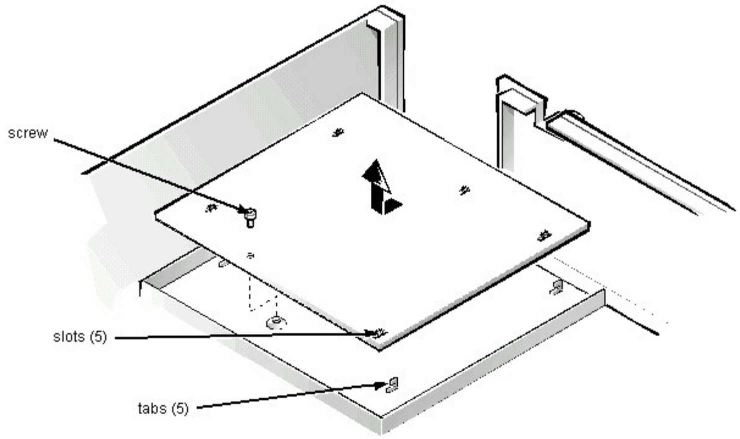


1. Remove the expansion-card cage.
2. Place the computer on its side on a flat surface, with the floor stand off the edge of the surface.
3. Unlatch and rotate the power supply until it stops.
4. Disconnect all cables from their connectors at the back of the computer.
5. Disconnect all cables from the system board.
6. Remove the screw that secures the system board to the side of the chassis.
7. Slide the system board toward the front of the chassis until it stops.
8. Carefully lift the system board out of the chassis (be sure to lift evenly and not twist the system board).

If you are replacing a system board, remove the DIMMs, cache memory card, NIC daughter board, and microprocessor from the old system board and install them on the replacement board.

When you reinstall the system board, before you slide the system board back to lock it in position, push down near each slot to engage the grounding clip onto its corresponding tab. Push evenly on both sides of the system board as you slide it into position (do not twist the system board).

System Board Removal (Midsize Chassis): OptiPlex GX*i*

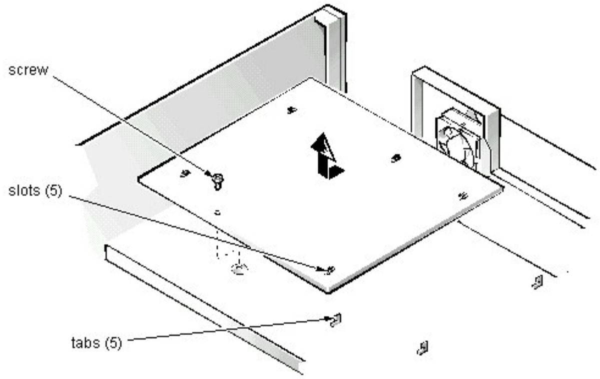


1. Remove the expansion-card cage.
2. Place the computer on its side on a flat surface, with the floor stand off the edge of the surface.
3. Unlatch and rotate the power supply until it stops.
4. Disconnect all cables from their connectors at the back of the computer.
5. Disconnect all cables from the system board.
6. Remove the screw that secures the system board to the side of the chassis.
7. Slide the system board toward the front of the chassis until it stops.
8. Carefully lift the system board out of the chassis (be sure to lift evenly and not twist the system board).

If you are replacing a system board, remove the DIMMs, cache memory card, NIC daughter board, and microprocessor from the old system board and install them on the replacement board.

When you reinstall the system board, before you slide the system board back to lock it in position, push down near each slot to engage the grounding clip onto its corresponding tab. Push evenly on both sides of the system board as you slide it into position (do not twist the system board).

System Board Removal (Mini Tower Chassis): OptiPlex GX*i*



1. Remove the expansion-card cage.
2. Place the computer on its side on a flat surface, with the floor stand off the edge of the surface.
3. Unlatch and rotate the power supply until it stops.
4. Disconnect all cables from their connectors at the back of the computer.
5. Disconnect all cables from the system board.
6. Remove the screw that secures the system board to the side of the chassis.
7. Slide the system board toward the front of the chassis until it stops.
8. Carefully lift the system board out of the chassis (be sure to lift evenly and not twist the system board).

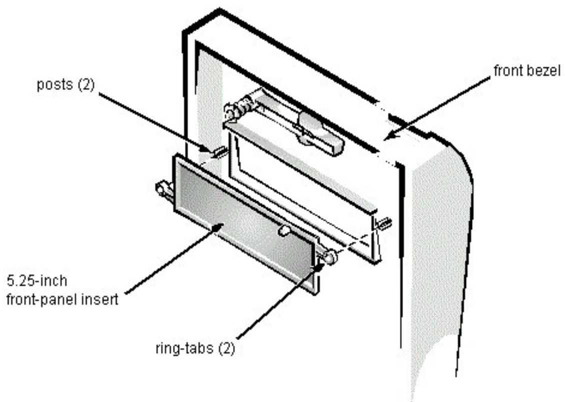
If you are replacing a system board, remove the DIMMs, cache memory card, NIC daughter board, and microprocessor from the old system board and install them on the replacement board.

When you reinstall the system board, before you slide the system board back to lock it in position, push down near each slot to engage the grounding clip onto its corresponding tab. Push evenly on both sides of the system board as you slide it into position (do not twist the system board).

Front Panel Insert Removal (Mini Tower Chassis): OptiPlex GX*i*

5.25-Inch Front-Panel Insert Removal | 3.5-Inch Front-Panel Insert Removal

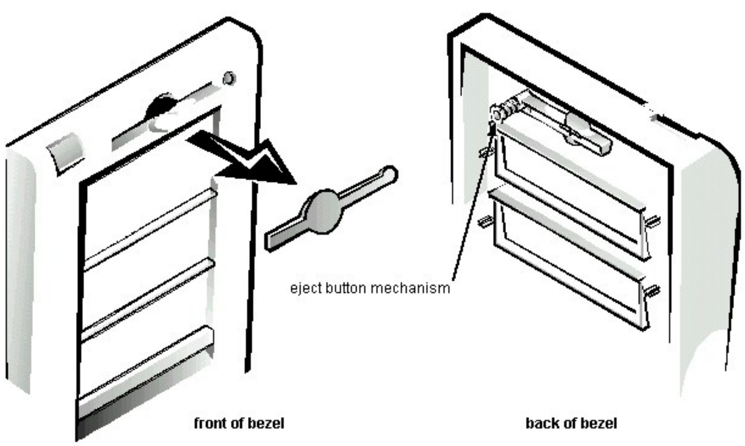
5.25-Inch Front-Panel Insert Removal



1. Hold the bezel with the front facing you.
2. Use your thumbs to press in each end of the insert until it snaps free of the bezel.

To replace a 5.25-inch front-panel insert, insert the two ring-tabs over the posts on the inside of the bay opening, and firmly press both ends of the insert into place.

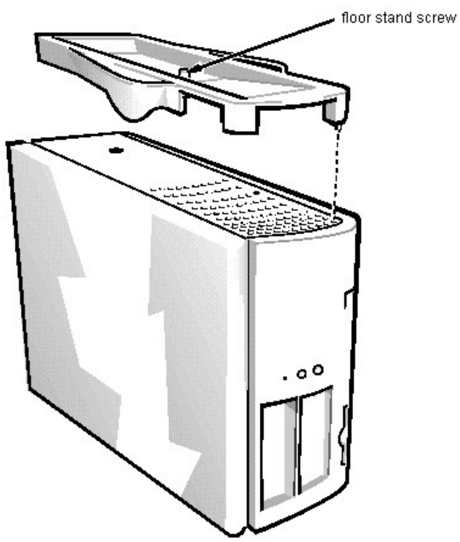
3.5-Inch Front-Panel Insert Removal



1. Hold the bezel with the front facing you.
2. Inside the bezel, press the eject button mechanism toward the front panel to snap the plastic insert out of its opening.

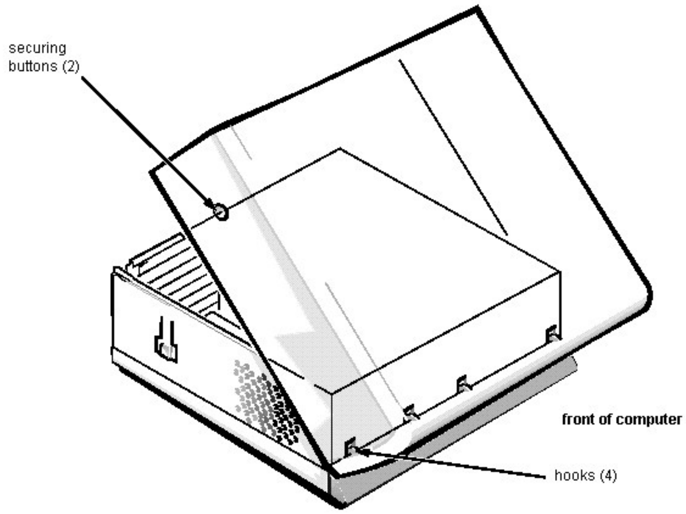
To replace the front-panel insert for the 3.5-inch bay, work from outside the bezel. Place the insert in position, and press it into the opening.

Floor Stand Removal (Midsize Chassis): OptiPlex GX*i*



1. Place the right side of the computer on a flat work surface.
2. Unscrew the floor stand thumbscrew.
3. Pull the floor stand away from the computer.

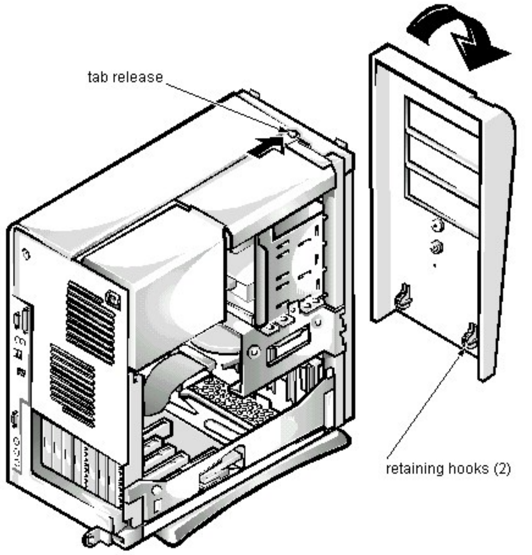
Computer Cover Removal (Midsize Chassis): OptiPlex GX*i*



1. Remove the padlock if one is installed.
2. Press the two securing buttons until the cover is free to swing up.
3. Raise the back of the cover and pivot it toward the front of the computer.
4. Disengage the cover's hooks from the front of the chassis, and lift the cover away.

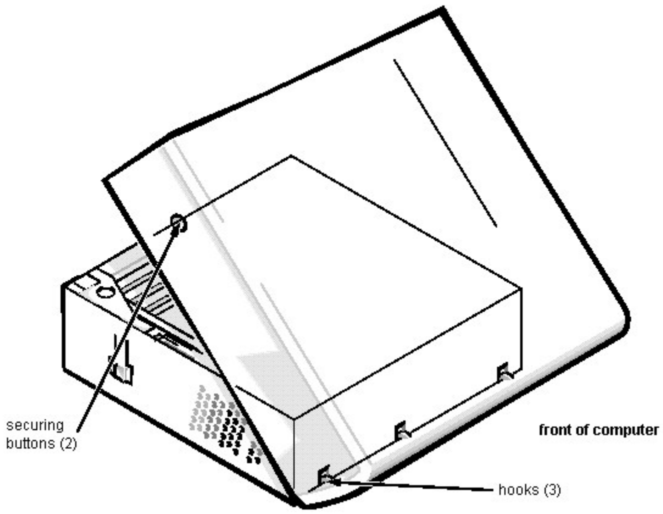
Before you reinstall the cover, fold all cables out of the way so that they do not interfere with the cover or with the proper airflow inside the computer.

Front Bezel Removal (Mini Tower Chassis): OptiPlex GX*i*



1. Press the tab release marked with the icon.
2. Tilt the bezel away from the chassis.
3. Disengage the two retaining hooks at the bottom of the bezel, and pull the bezel away from the chassis.

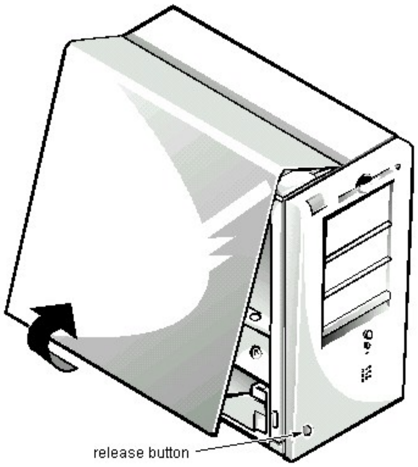
Computer Cover Removal (Low-Profile Chassis): OptiPlex GX*i*



1. Remove the padlock if one is installed.
2. Press the two securing buttons until the cover is free to swing up.
3. Raise the back of the cover and pivot it toward the front of the computer.
4. Disengage the cover's hooks from the front of the chassis, and lift the cover away.

Before you reinstall the cover, fold all cables out of the way so that they do not interfere with the cover or with the proper airflow inside the computer.

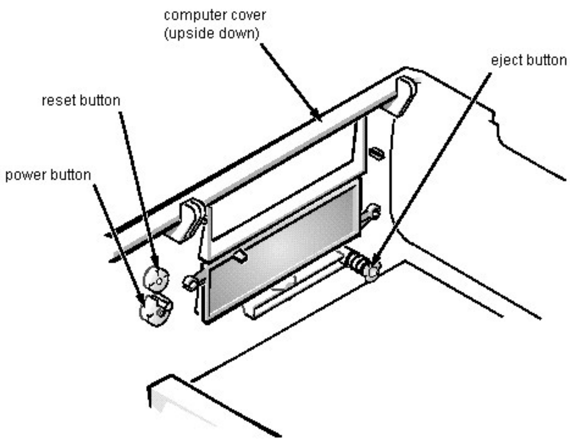
Computer Cover Removal (Mini Tower Chassis): OptiPlex GX*i*



1. Remove the padlock if one is installed.
2. Facing the left side of the computer, press the release button at the bottom-left corner of the front bezel.
3. Lift the bottom of the cover, allowing it to pivot upward toward you.
4. Disengage the tabs that secure the cover to the top of the chassis, and lift the cover away.

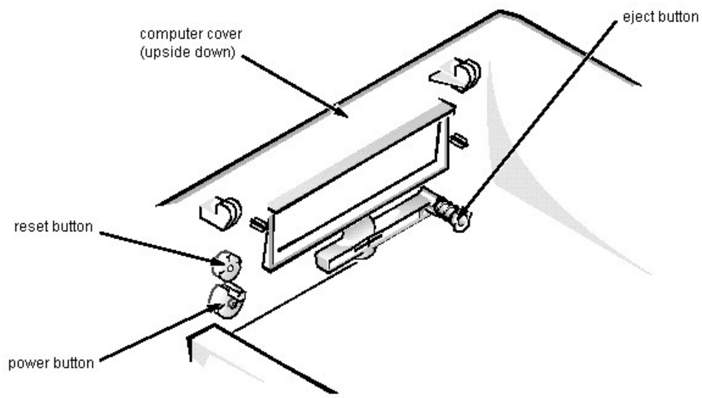
Before you reinstall the cover, fold all cables out of the way so that they do not interfere with the cover or with the proper airflow inside the computer.

Eject-, Power-, and Reset-Button Removal (Midsize Chassis): OptiPlex GX*i*



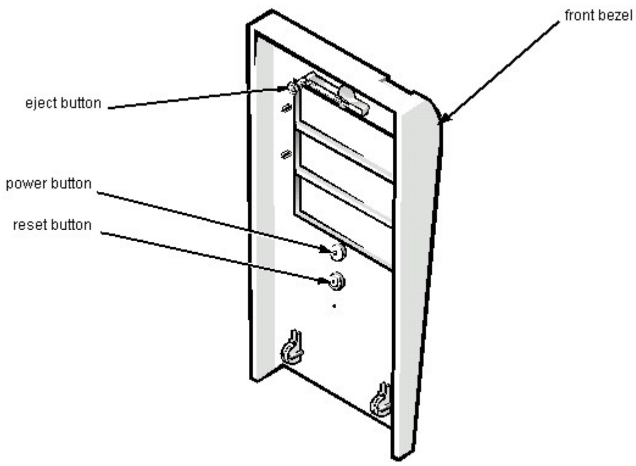
1. Lay the computer cover upside down on a flat work surface, with the back of the cover facing you.
2. To remove the 3.5-inch diskette-drive eject button, pull gently on the plastic part of the button until it comes free.
3. To remove the power button and the reset button, use a small screwdriver to push in the two or three plastic clips that secure the buttons to the computer cover.

Eject-, Power-, and Reset-Button Removal (Low-Profile Chassis): OptiPlex GX*i*



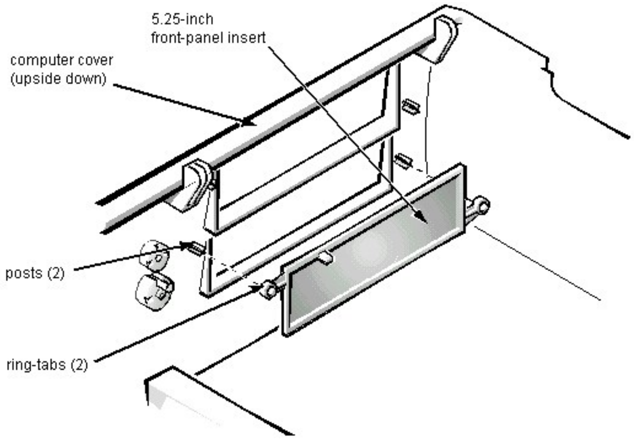
1. Lay the computer cover upside down on a flat work surface, with the back of the cover facing you.
2. To remove the 3.5-inch diskette-drive eject button, pull gently on the plastic part of the button until it comes free.
3. To remove the power button and the reset button, use a small screwdriver to push in the two or three plastic clips that secure each button to the computer cover.

Eject-, Power-, and Reset-Button Removal (Mini Tower Chassis): OptiPlex GX*i*



1. Lay the front bezel on a flat work surface with the back of the bezel facing up.
2. To remove the 3.5-inch diskette-drive eject button, pull gently on the plastic part of the button until it comes free.
3. To remove the power button and the reset button, use a small screwdriver and push in the two or three plastic clips that hold the button to the bezel. When these clips are released, the button comes free from the bezel.

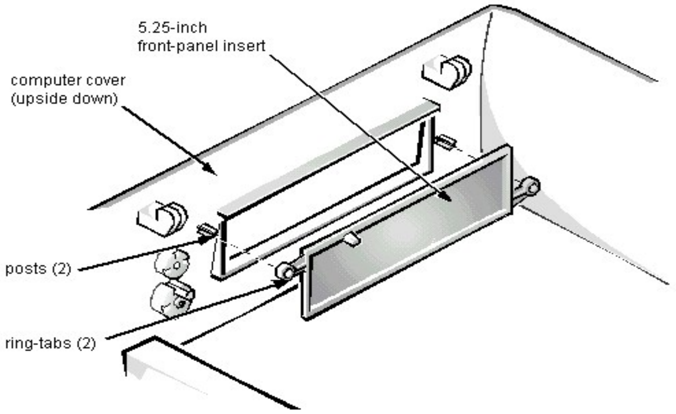
Front-Panel Insert Removal (Midsize Chassis): OptiPlex GX*i*



1. Lay the computer cover upside down on a flat work surface, with the front of the cover facing you.
2. From the front of the cover, use your thumbs to push inward on the insert until it slides off the two posts.

To replace a front-panel insert, position the front-panel insert, and then press the ring-tabs over the posts. If necessary, use a 1/4-inch nutdriver to secure the ring-tabs.

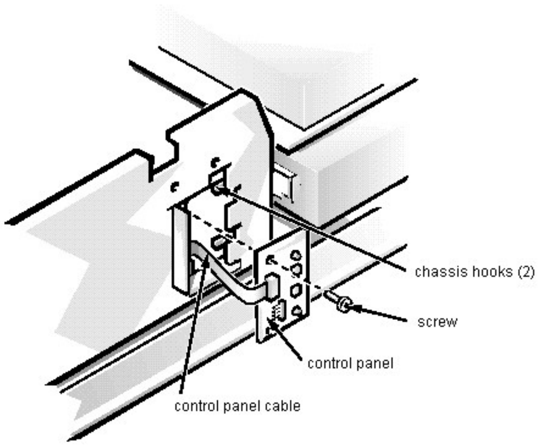
Front-Panel Insert Removal (Low-Profile Chassis): OptiPlex GX*i*



1. Lay the computer cover upside down on a flat work surface, with the front of the cover facing you.
2. From the front of the cover, use your thumbs to push inward on the insert until it slides off the two posts.

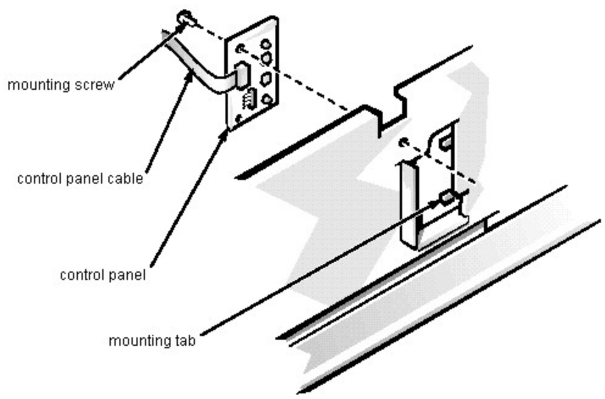
To replace a front-panel insert, position the front-panel insert, and then press the ring-tabs over the posts. If necessary, use a 1/4-inch nutdriver to secure the ring-tabs.

Control Panel Removal (Midsize Chassis): OptiPlex GX*i*



1. Remove the hard-disk drive bracket.
2. Disconnect the control panel cable from the PANEL connector on the system board.
3. Unscrew the mounting screw securing the control panel to the chassis.
4. Slide the control panel out of the hooks securing it to the chassis.
   Note the routing of the control panel cable as you remove it from the chassis.

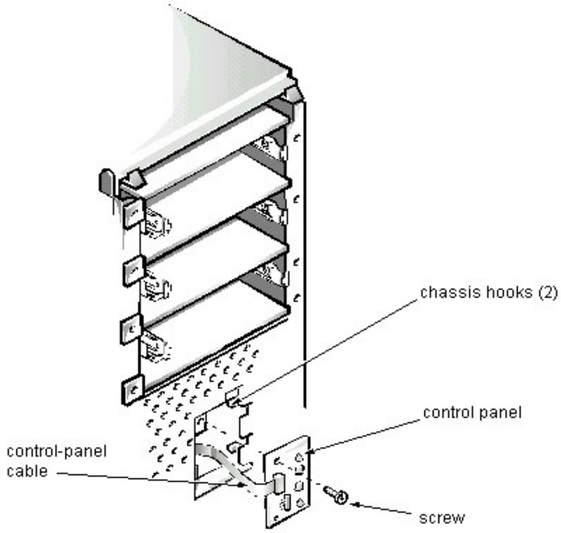
Control Panel Removal (Low-Profile Chassis): OptiPlex GX*i*



1. Disconnect the control panel cable from the PANEL connector on the system board.
2. From the inside of the chassis, unscrew the mounting screw securing the control panel to the chassis.
3. Remove the control panel from the chassis.

When you reinstall the control panel, be sure to put the right side of the control panel behind the mounting tab.

Control Panel Removal (Mini Tower Chassis): OptiPlex GX*i*



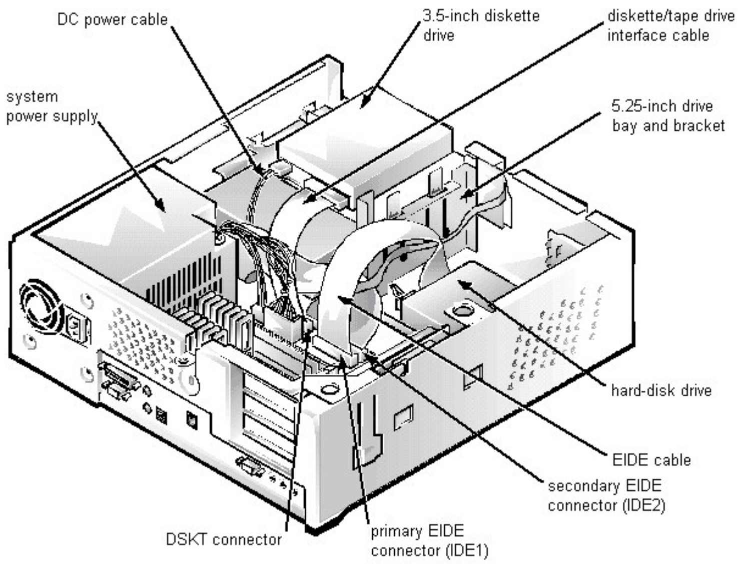
1. Remove the hard-disk drive bracket.
2. Disconnect the control panel cable from the PANEL connector on the system board.
3. Remove the mounting screw holding the control panel to the chassis.
4. Slide the control panel out of the hooks holding it to the chassis.
   Note the routing of the control panel cable as you remove it from the chassis.

Drive Hardware Removal (Low-Profile Chassis): OptiPlex GX*i*

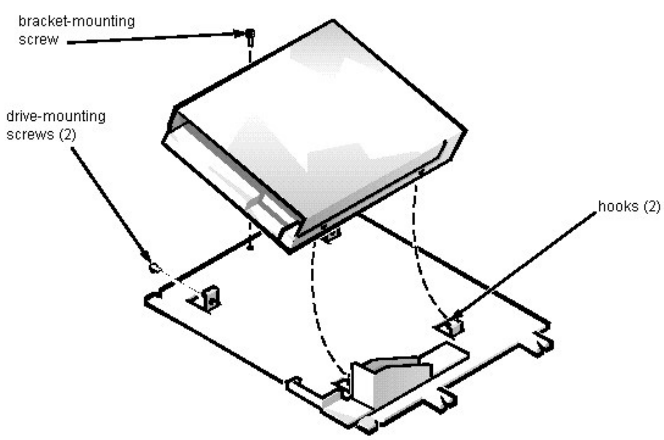
Drive Hardware | 3.5-Inch Diskette-Drive Removal | 5.25-Inch Drive Assembly Removal | 5.25-Inch Drive Removal | Hard-Disk Drive Bracket Removal | Hard-Disk Drive Removal

---

Drive Hardware



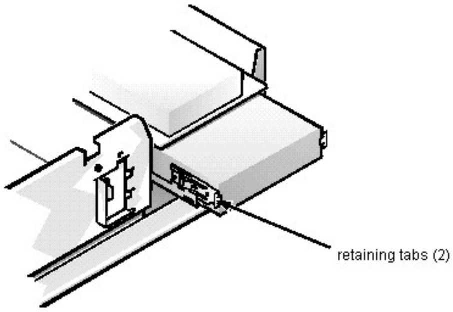
3.5-Inch Diskette-Drive Removal



1. Disconnect the DC power cable and the interface cable from the back of the 3.5-inch diskette drive.
2. Remove the bracket-mounting screw.
3. Rotate the left side of the 3.5-inch diskette drive assembly up, and lift the assembly out of the chassis.
4. Remove the two drive-mounting screws from the left side of the drive, and remove the drive from the bracket.

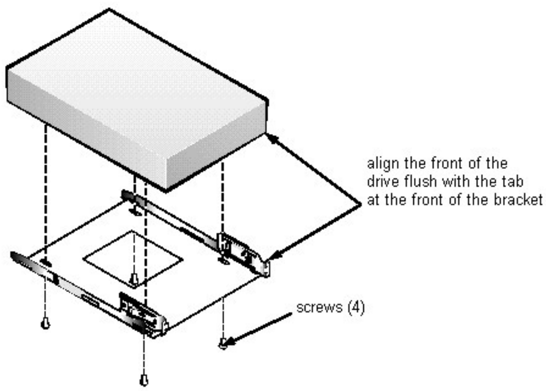
When you replace the 3.5-inch diskette drive, be sure the two hooks on the right side of the bracket engage the mounting holes in the side of the 3.5-inch diskette drive.

5.25-Inch Drive Assembly Removal



1. Disconnect the DC power cable and the interface cable from the back of the drive.
2. Press in the two retaining tabs (one on each side of the drive), and slide the drive assembly forward to remove it.

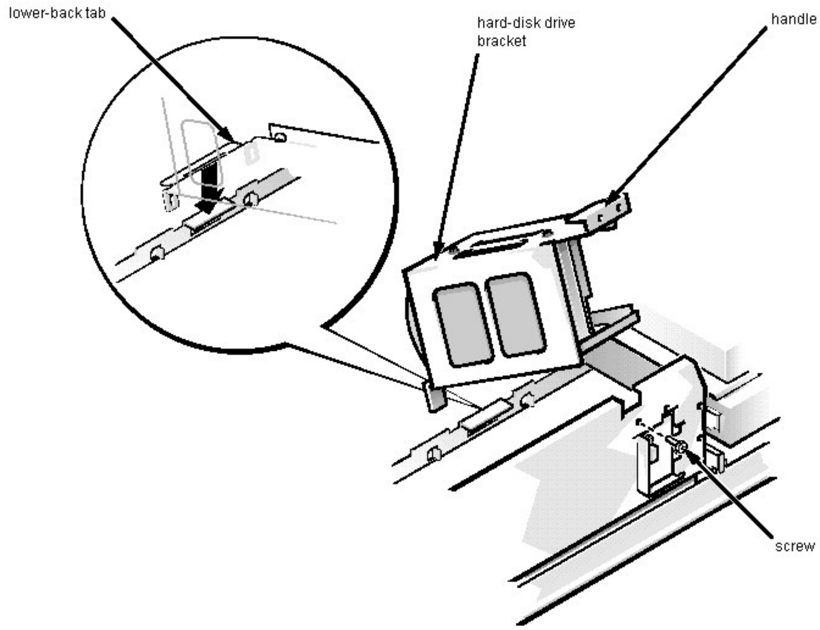
5.25-Inch Drive Removal



Remove the four screws attaching the 5.25-inch drive to the drive bracket, and lift the drive out of the bracket.

When you replace the 5.25-inch drive, align the front of the drive flush with the tabs at the front of the drive bracket. Insert the four screws, and tighten them in the order stamped on the bottom of the bracket.

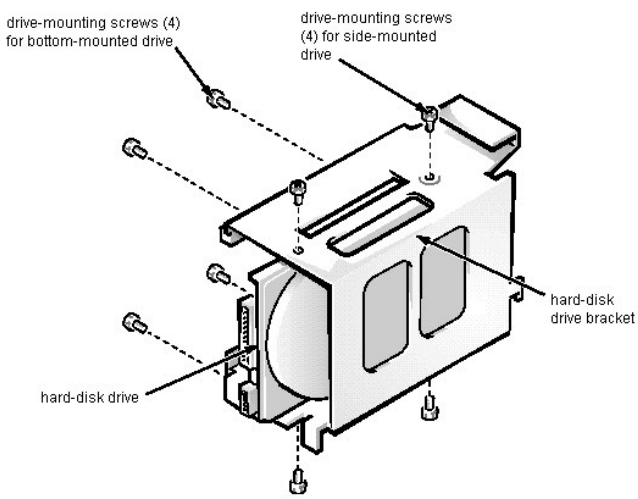
Hard-Disk Drive Bracket Removal



1. Disconnect the DC power cable and the interface cable from the back of each hard-disk drive installed in the hard-disk drive bracket.
2. Remove the screw that secures the hard-disk drive bracket to the front of the chassis.
3. Grasp the handle on the front of the bracket, and rotate the front of the bracket up until its tab disengages from the chassis.
4. Lift the hard-disk drive bracket out of the computer.

When you reinstall the hard-disk drive bracket, place the lower-back tab of the bracket into position; make sure that the opening in the lower-back tab fits over the alignment tab on the chassis. Then rotate the front of the bracket down into position.

Hard-Disk Drive Removal



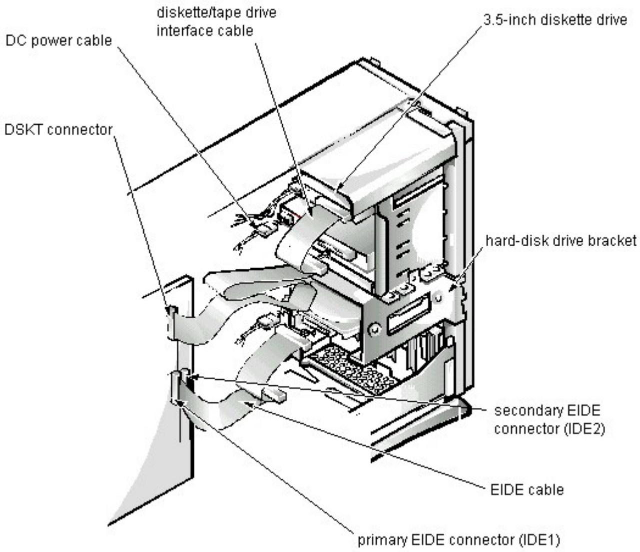
1. Remove the hard-disk drive bracket.
2. Remove the four screws that attach the hard-disk drive to the hard-disk drive bracket.
   One hard-disk drive attaches to the hard-disk drive bracket at the sides of the drive. The other hard-disk drive attaches to the hard-disk drive bracket at the bottom of the hard-disk drive.
3. Slide the drive out of the hard-disk drive bracket.

Drive Hardware Removal (Mini Tower Chassis): OptiPlex GX*i*

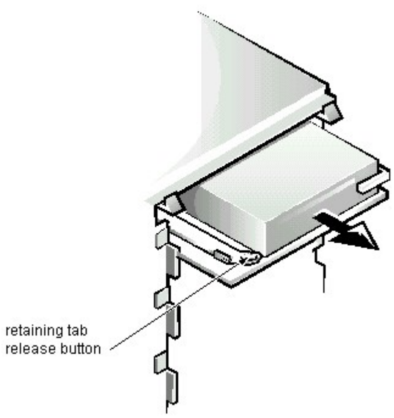
Drive Hardware | 3.5-Inch Drive Assembly Removal | 3.5-Inch Diskette-Drive Removal | 5.25-Inch Drive Assembly Removal | 5.25-Inch Drive Removal | Hard-Disk Drive Bracket Removal | Hard-Disk Drive Removal

---

Drive Hardware

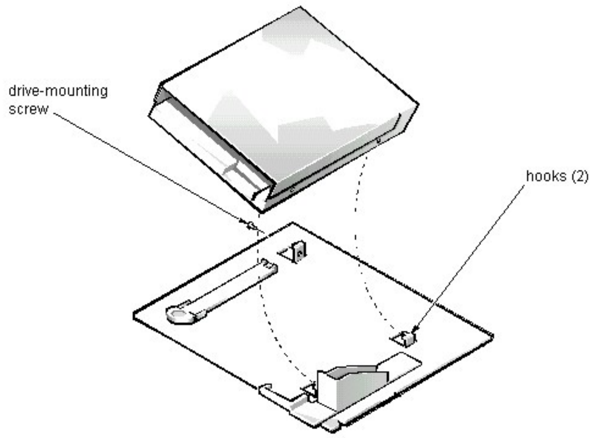


3.5-Inch Drive Assembly Removal



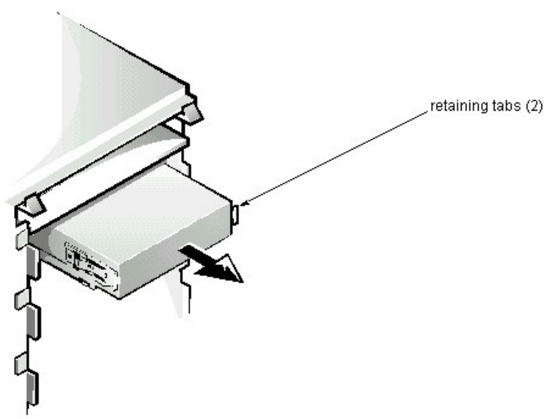
1. Disconnect the DC power cable and the interface cable from the back of the diskette drive.
2. Press the retaining tab release button, and pull the drive assembly forward to remove it.

3.5-Inch Diskette-Drive Removal



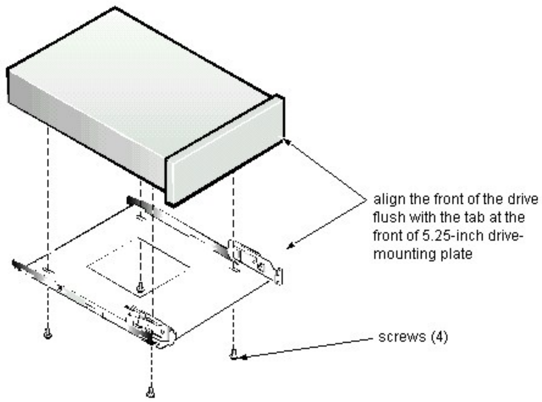
When you replace the 3.5-inch diskette drive, be sure the two hooks on the right side of the bracket engage the mounting holes in the side of the 3.5-inch diskette drive.

5.25-Inch Drive Assembly Removal



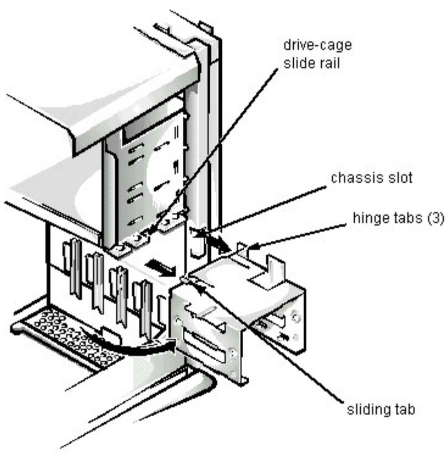
1. Disconnect the DC power cable and the interface cable from the back of the 3.5-inch diskette drive.
2. Press in the retaining tab release button and pull the drive assembly forward to remove it.
3. Remove the four screws attaching the 5.25-inch drive to the mounting plate, and lift the drive out of the mounting plate.

5.25-Inch Drive Removal



When you replace the 5.25-inch drive, align the front of the drive flush with the tab at the front of the mounting plate. Insert the four screws, and tighten them in the order stamped on the bottom of the 5.25-inch drive-mounting plate.

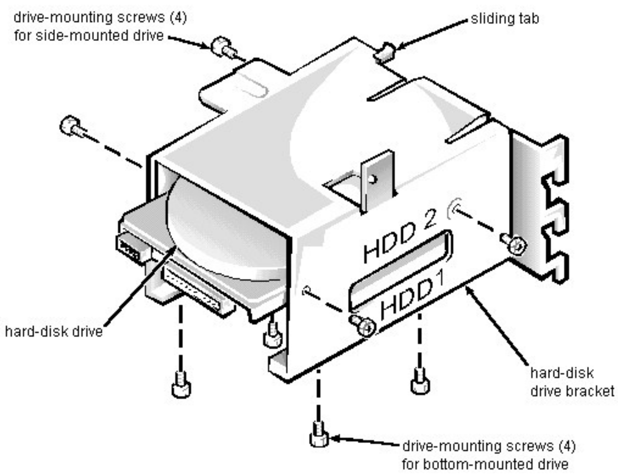
Hard-Disk Drive Bracket Removal



1. Disconnect the DC power cable and the interface cable from the back of each hard-disk drive installed in the hard-disk drive bracket.
2. Remove the screw that secures the hard-disk drive bracket to the drive cage in the chassis.
3. Grasp the bracket and rotate it outward from the chassis until the sliding tab clears the slide rail on the drive cage.
4. Lift the hard-disk drive bracket up slightly to free the hinge tabs and remove from the computer.

When you reinstall the hard-disk drive bracket, insert the bracket's hinge tabs into the chassis slots so that the tabs hook over the slots. Then rotate the bracket toward the drive cage, and fit the bracket's sliding tab on the drive-cage slide rail.

Hard-Disk Drive Removal



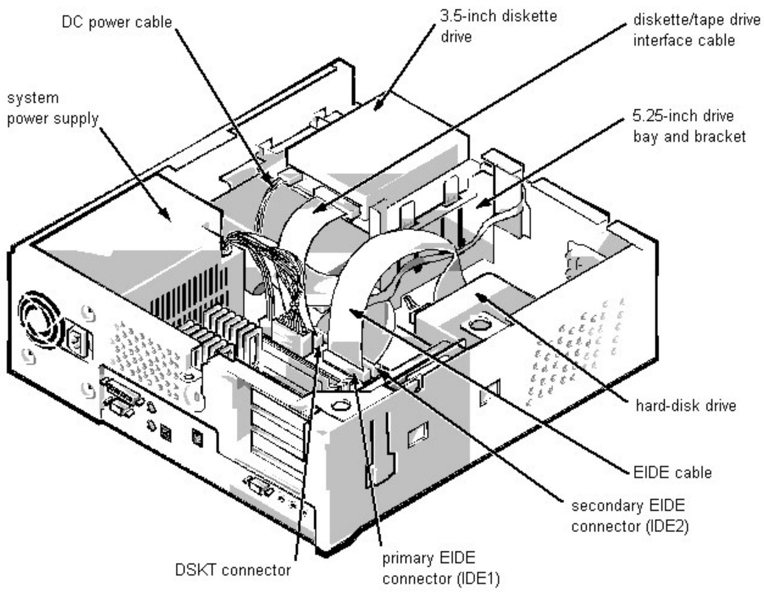
1. Remove the hard-disk drive bracket.
2. Remove the four screws that attach the hard-disk drive to the hard-disk drive bracket.
   One hard-disk drive attaches to the hard-disk drive bracket at the sides of the drive. The other hard-disk drive attaches to the hard-disk drive bracket at the bottom of the hard-disk drive.
3. Slide the drive out of the hard-disk drive bracket.

Drive Hardware (Low-Profile Chassis): OptiPlex GX*i*

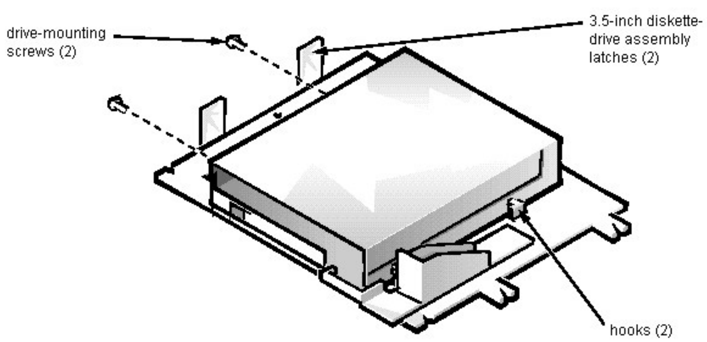
Drive Hardware | 3.5-Inch Diskette-Drive Assembly Removal | 5.25-Inch Drive Assembly Removal | Hard-Disk Drive Assembly Removal

---

Drive Hardware



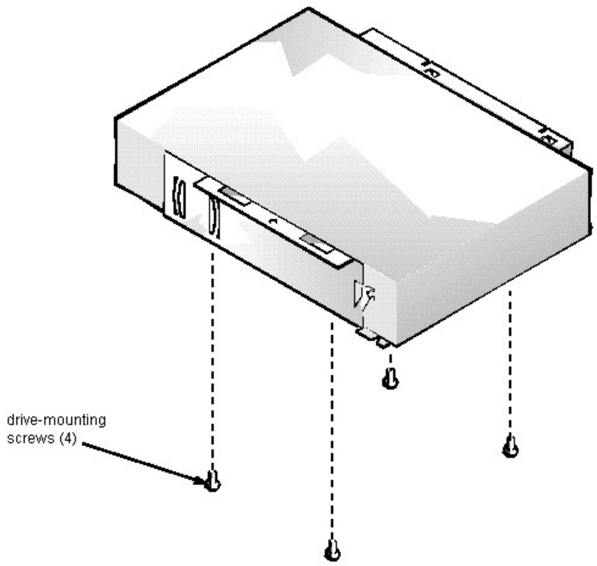
3.5-Inch Diskette-Drive Assembly Removal



1. Disconnect the DC power cable and the interface cable from the back of the diskette drive.
2. Press in the two 3.5-inch diskette-drive assembly latches to release the assembly. Rotate the left side of the assembly up, and lift the assembly out of the chassis.
3. Remove the two drive-mounting screws from the left side of the drive, and remove the drive from the bracket.

When you replace the 3.5-inch diskette drive, be sure the mounting holes on the right side of the drive engage the two hooks on the bracket.

5.25-Inch Drive Assembly Removal

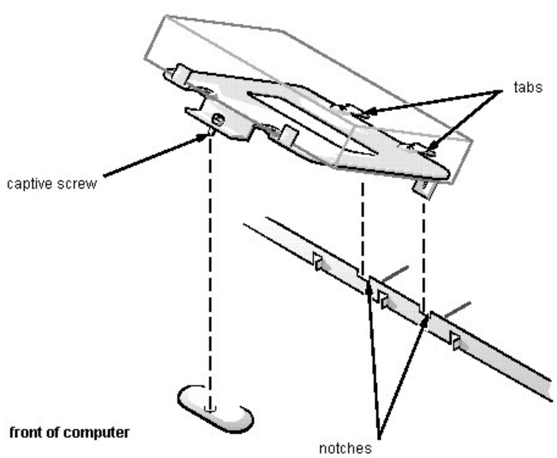


1. Remove the 3.5-inch diskette drive assembly.
2. Disconnect the DC power cable and the interface cable from the back of the 5.25-inch drive.
3. Lift the 5.25-inch drive assembly straight up and out of the chassis.
4. Lay the 5.25-inch drive assembly upside down, then remove the four screws attaching the drive to the bracket.

When you replace the 5.25-inch drive, place the front of the drive toward the front of the bracket; then install the four screws but do not tighten them. Align the screws with the score marks on the bracket, and tighten the screws in the order stamped on the bottom of the bracket.

Check the alignment of the computer cover around the 5.25-inch drive bezel. Adjust the drive forward or backward on the bracket to align it.

Hard-Disk Drive Assembly Removal



1. Disconnect the DC power cable and the interface cable from the back of the drive.
2. Loosen the captive screw that secures the hard-disk drive bracket to the chassis.
3. Pivot the hard-disk drive assembly up, and then lift it out of the chassis.
4. Remove the four hard-disk drive mounting screws that attach the hard-disk drive to the hard-disk drive bracket.

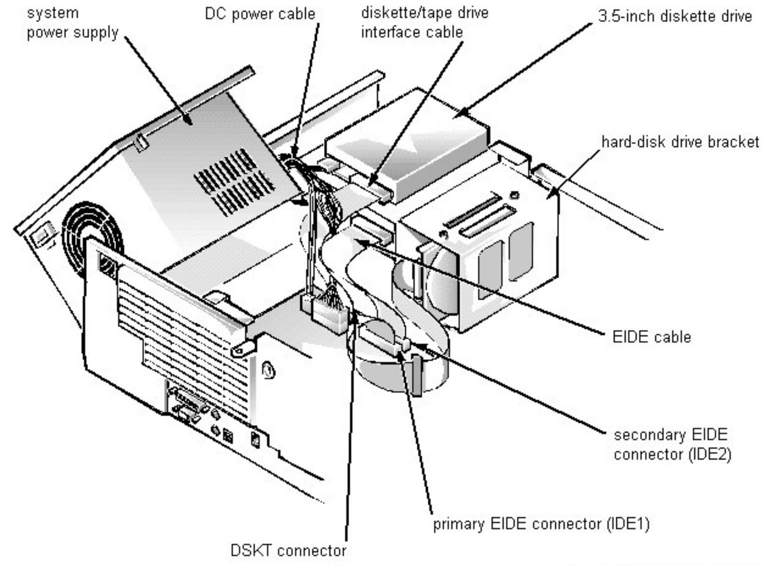
When you reinstall the hard-disk drive assembly, be sure the tabs on the mounting plate fully engage the notches on the chassis before you rotate the assembly into place.

Drive Hardware Removal (Midsize Chassis): OptiPlex GX*i*

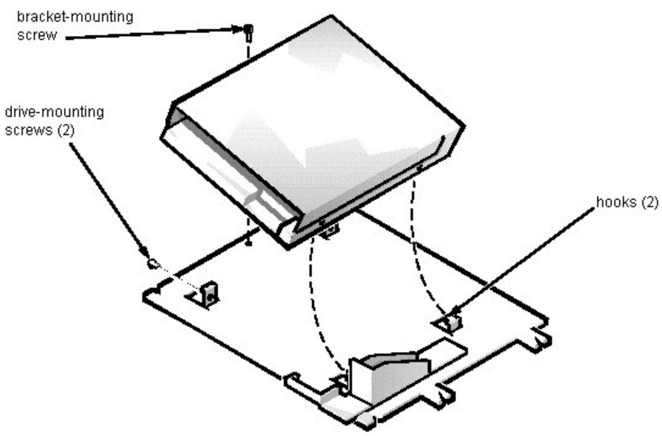
Drive Hardware | 3.5-Inch Diskette-Drive Removal | 5.25-Inch Drive Assembly Removal | 5.25-Inch Drive Removal | Hard-Disk Drive Bracket Removal | Hard-Disk Drive Removal

---

Drive Hardware



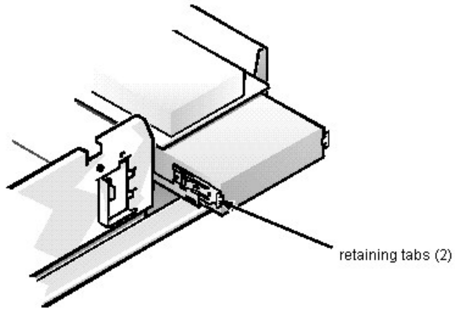
3.5-Inch Diskette-Drive Removal



1. Disconnect the DC power cable and the interface cable from the back of the 3.5-inch diskette drive.
2. Remove the bracket-mounting screw.
3. Rotate the left side of the 3.5-inch diskette drive assembly up, and lift the assembly out of the chassis.
4. Remove the two drive-mounting screws from the left side of the drive, and remove the drive from the bracket.

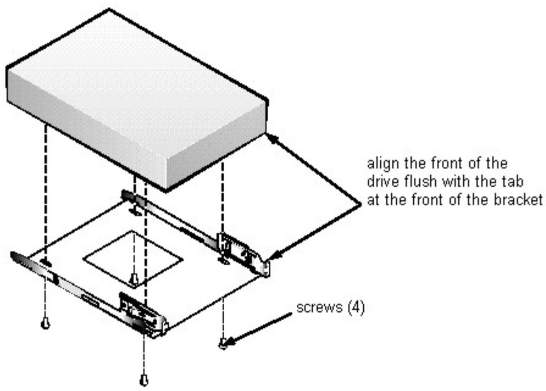
When you replace the 3.5-inch diskette drive, be sure the two hooks on the right side of the bracket engage the mounting holes in the side of the 3.5-inch diskette drive.

5.25-Inch Drive Assembly Removal



1. Disconnect the DC power cable and the interface cable from the back of the drive.
2. Press in the two retaining tabs (one on each side of the drive), and slide the drive assembly forward to remove it.

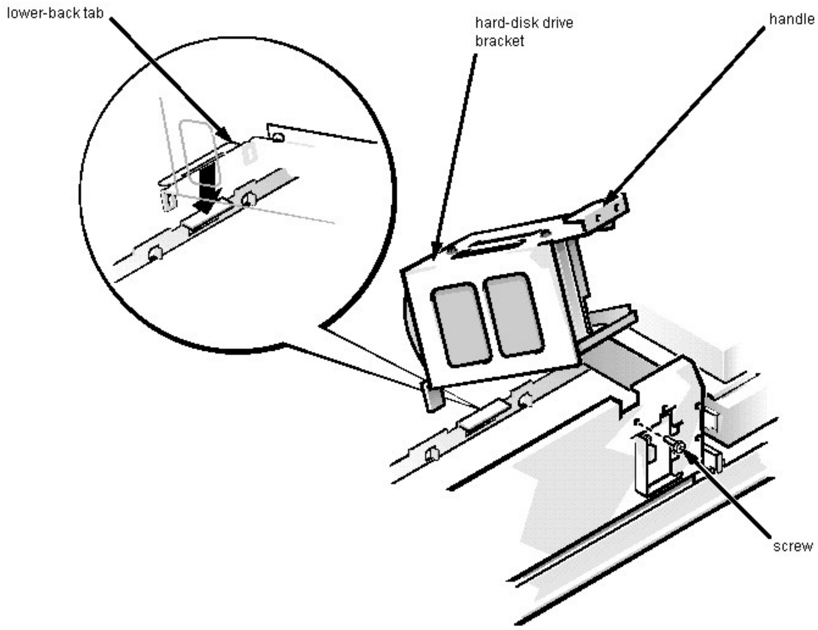
5.25-Inch Drive Removal



Remove the four screws attaching the 5.25-inch drive to the drive bracket, and lift the drive out of the bracket.

When you replace the 5.25-inch drive, align the front of the drive flush with the tabs at the front of the drive bracket. Insert the four screws, and tighten them in the order stamped on the bottom of the bracket.

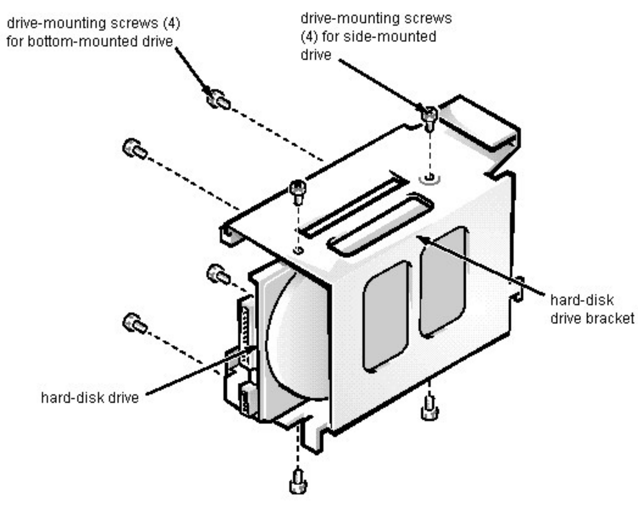
Hard-Disk Drive Bracket Removal



1. Disconnect the DC power cable and the interface cable from the back of each hard-disk drive installed in the hard-disk drive bracket.
2. Remove the screw that secures the hard-disk drive bracket to the front of the chassis.
3. Grasp the handle on the front of the bracket, and rotate the front of the bracket up until its tab disengages from the chassis.
4. Lift the hard-disk drive bracket out of the computer.

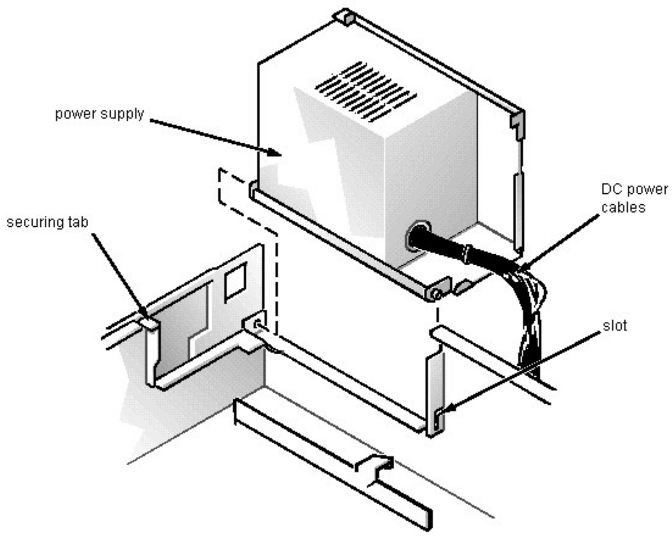
When you reinstall the hard-disk drive bracket, place the lower-back tab of the bracket into position; make sure that the opening in the lower-back tab fits over the alignment tab on the chassis. Then rotate the front of the bracket down into position.

Hard-Disk Drive Removal



1. Remove the hard-disk drive bracket.
2. Remove the four screws that attach the hard-disk drive to the hard-disk drive bracket.
   One hard-disk drive attaches to the hard-disk drive bracket at the sides of the drive. The other hard-disk drive attaches to the hard-disk drive bracket at the bottom of the hard-disk drive.
3. Slide the drive out of the hard-disk drive bracket.

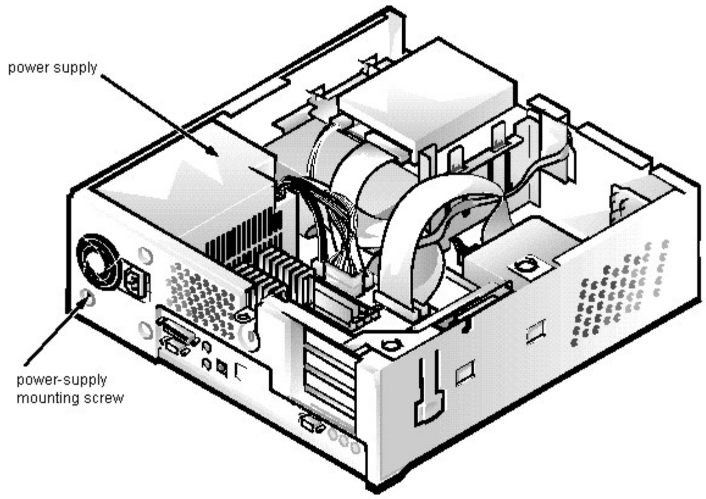
System Power-Supply Removal (Midsize Chassis): OptiPlex GX*i*



To remove the system power supply, follow these steps:

1. Disconnect the AC power cable from the back of the power supply.
2. Free the system power supply from the securing tab labeled "RELEASE -->," and rotate the power supply to the right until it stops.
3. Press the securing tab to the left to release the system power supply.
4. Disconnect the DC power cables from the system board and the drives.
5. Lift up the front end of the system power supply, and move it to the right to disengage the system power supply from the slot in the chassis.
6. Lift the system power supply from the computer.

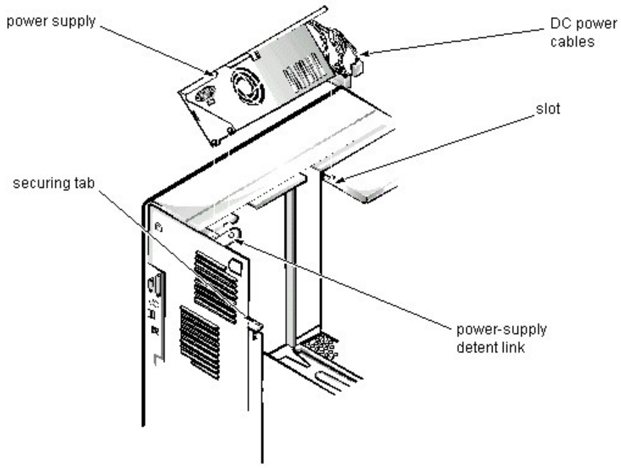
System Power-Supply Removal (Low-Profile Chassis): OptiPlex GX*i*



1. Disconnect the AC power cable from the back of the power supply.
2. Disconnect the DC power cables from the system board and the drives.
3. Remove the power-supply mounting screw at the back of the chassis.
4. Slide the system power supply forward until it stops; then lift it from the chassis.

When you replace the system power supply, place it down inside the chassis and against the right side of the chassis. Then slide the system power supply toward the back of the chassis, and hook the tab on the side of the chassis into the right side of the power supply.

System Power-Supply Removal (Mini Tower Chassis): OptiPlex GX*i*



To remove the system power supply, follow these steps:

1. Disconnect the AC power cable from the back of the power supply.
2. Free the system power supply from the securing tab labeled "RELEASE -->," and rotate the power supply to the right until it stops.
3. Press the securing tab to the left to release the system power supply.
4. Disconnect the DC power cables from the system board and the drives.
5. Lift up the front end of the system power supply, and move it to the right to disengage the system power supply from the slot in the chassis.
6. Lift the system power supply from the computer.

System Setup: OptiPlex GX*i*

See "Using the System Setup Program" in the online *System User's Guide*.

Specifications: OptiPlex GX*i*

General | System Information | Expansion Bus | System Clocks | Memory | Drives | Ports | Audio | Video | Power | Physical | Environmental | Regulatory Notices

General

Microprocessor type	Intel® Pentium® microprocessor or an Intel Pentium microprocessor with MMX™ technology
Microprocessor speeds	133/66, 166/66, and 200/66 MHz on standard microprocessors; 166/66, 200/66, and 233/66 MHz on microprocessors with MMX technology
Compatibility speeds	slower speed can be set through the System Setup program
Internal cache	16 KB (8-KB data cache, 8-KB instruction cache) on standard microprocessors; 32 KB (16-KB data cache, 16-KB instruction cache) on microprocessors with MMX technology
Math coprocessor	internal to the microprocessor
Microprocessor socket	7

System Information

System chip set	Intel 430HX PCIset
Data bus width	64 bits
Address bus width	32 bits
DMA channels	7
Interrupt levels	15
System/video BIOS chip	1 Mbit (128 KB)
BIOS core	Dell Phoenix
NIC controller chip	3Com® 3C905
Audio controller chip	Crystal CS4236

Expansion Bus

Bus type	PCI (version 2.1) and ISA
Expansion-card riser board, low-profile chassis:	
ISA expansion-card connectors	2 full-length; 1 connector shares a card-slot opening with a PCI expansion-card connector.
PCI expansion-card connectors	1 full-length and 1 half-length (up to 8.7 inches long); 1 connector shares a card-slot opening with an ISA expansion-card connector.
Expansion-card riser board, midsize chassis with 3 PCI slots (option 1):	
ISA expansion-card connectors	3 full-length; 1 connector shares a card-slot opening with a PCI expansion-card connector.
PCI expansion-card connectors	3 full-length; 1 connector shares a card-slot opening with an ISA expansion-card connector.
Expansion-card riser board, midsize chassis with 5 PCI slots (option 2):	
ISA expansion-card connectors	2 full-length; each connector shares a card-slot opening with a PCI expansion-card connector.
PCI expansion-card connectors	5 full-length; 2 connectors share card-slot openings with the 2 ISA expansion-card connectors.
Expansion-card riser board,	

mini tower chassis:

ISA expansion-card connectors	4 full-length; 2 connectors share a card-slot opening with 2 PCI expansion-card connectors.
PCI expansion-card connectors	5 full-length; two connectors share a card-slot opening with 2 ISA expansion-card connectors.
ISA bus speed	8.33 MHz
PCI bus speed	33 MHz
Plug and Play revision	1.0a
PCI bus specification	complies with PCI specification 2.1
PCI expansion-card connector size	120 pins
PCI expansion-card connector data width	32 bits (maximum)

System Clocks

Diskette/communications ports	24 MHz from the system clock
System clock	66 MHz (matches external processor frequency)

Memory

Architecture	64-bit (non-ECC) or 72-bit (ECC), noninterleaved
Wait states	near 0
DIMM sockets	4, gold contacts
DIMM capacities	8- 16-, and 32-MB nonparity; 8-, 16-, 32-, 64-, and 128-MB parity/ECC
Minimum RAM	16 MB
Maximum RAM	512 MB
External cache (optional)	256- or 512-KB pipelined-burst, direct-mapped, write-back SRAM
BIOS address	F0000h
DIMMs buffered or unbuffered	unbuffered
Supports 2 or 4 clock cycles	not applicable
DIMM voltage	3.3 V

Drives

Low-profile chassis:	
Externally accessible bays	(1) 5.25-inch bay; (1) 3.5-inch diskette-drive bay
Internally accessible bays	(1) 3.5-inch bay for a 1-inch-high hard-disk drive
Midsize chassis:	
Externally accessible bays	(2) 5.25-inch bays; (1) 3.5-inch diskette-drive bay
Internally accessible bays	(1) 3.5-inch bay for a 1-inch-high hard-disk drive; (1) 3.5-inch bay for a 1.6-inch-high hard-disk drive
Mini tower chassis:	
Externally accessible bays	(3) 5.25-inch bays; (1) 3.5-inch diskette-drive bay
Internally accessible bays	(1) 3.5-inch bay for a 1-inch-high hard-disk drive; (1) 3.5-inch bay for a 1.6-inch-high hard-disk drive

NOTE: OptiPlex GXi systems are equipped with SMART (Self-Monitoring Analysis Reporting Tool) technology. SMART technology supports early detection of imminent hard-disk drive failure.

Ports

Externally accessible:	
Serial (DTE)	(1) 9-pin connector (16550-compatible)
Parallel	(1) 25-hole connector (bidirectional)
Video	(1) 15-hole connector
Audio	(3) miniature jacks for line-in, line-out, and microphone
PS/2-style keyboard	(1) 6-pin mini-DIN
PS/2-compatible mouse	(1) 6-pin mini-DIN
NIC	RJ45 connector
USB	2 USB-compliant connectors
Internally accessible:	
Primary EIDE (hard-disk drives only)	40-pin connector
Secondary EIDE (EIDE devices)	40-pin connector
Diskette drive	34-pin connector
CD-ROM Drive	4-pin connector

Audio

Model	Crystal Semiconductor
Chip set	CS4236
Jacks:	
Audio line-in	(1) miniature audio jack
Audio line-out	(1) miniature audio jack (amplified source)
Microphone	(1) miniature audio jack

Video

Video type	SVGA
Video chip set	S3 Trio64V+ 86C765
Video memory	2 MB
Maximum resolution	1280 × 1024, 256 colors

Power

DC power supply:	
Wattage	145 W (low-profile chassis); 200 W (midsize and mini tower chassis)
Voltage	90 to 135 V at 60 Hz; 180 to 265 V at 50 Hz

Heat dissipation	913 BTUs (fully loaded low-profile, midsize, or mini tower system without monitor)
Battery	3-V CR2032 coin cell

Physical

Low-profile chassis:	
Weight	10.89 kg (24.0 lb) or more, depending on options installed
Height	10.9 cm (4.3 inches)
Width	40.89 cm (16.1 inches)
Depth	43.69 cm (17.2 inches)
Midsize chassis:	
Weight	12.7 kg (28.0 lb) or more, depending on options installed
Height	16.5 cm (6.5 inches)
Width	41.9 cm (16.5 inches)
Depth	44.5 cm (17.5 inches)
Mini tower chassis:	
Weight	14.9 kg (33.0 lb) or more, depending on options installed
Height	44.4 cm (17.5 inches)
Width	20.6 cm (8.1 inches)
Depth	43.7 cm (17.2 inches)

Environmental

Temperature:	
Operating	10° to 35°C (50° to 95°F)*
Storage	-40° to 65°C (-40° to 149°F)
Relative humidity	20% to 80% (noncondensing)
Maximum vibration:	
Operating	0.25 G at 3 to 200 Hz at 1 octave/min
Storage	0.5 G at 3 to 200 Hz at 1 octave/min
Maximum shock:	
Operating	bottom half-sine pulse with a change in velocity of 50.8 cm/sec (20 inches/sec)
Storage	27-G faired square wave with a velocity change of 508 cm/sec (200 inches/sec)
Altitude:	
Operating	-16 to 3048 m (-50 to 10,000 ft)*
Storage	-16 to 10,600 m (-50 to 35,000 ft)

* *At 35°C (95°F), the maximum operating altitude is 914 m (3,000 ft).*

Regulatory Notices

FCC (U.S. only)	Class B (low-profile and midsize chassis) Class A[1], Class B[2] (mini tower chassis)
IC Notice (Canada only)	Class B
CE Notice	Class B
FCC ID	Class B
EN 55022 (Czech Republic only)	Category B
VCCI Notice (Japan only)	Class 1, Class 2
Korean Regulatory Notice	Class A, Class B
Nom 024 Information (Mexico only)	
Polish Center for Testing and Certification	

[1] *For the mini tower chassis when networked.*
[2] *For the mini tower chassis when in standalone mode.*

Hard-Disk Drive Options: OptiPlex GX*i*

Low-Profile Chassis| Midsize Chassis | Mini Tower Chassis | EIDE Subsystem

---

Low-Profile Chassis

The hard-disk drive assembly (consisting of the hard-disk drive and the hard-disk drive bracket) is located inside the left front area of the chassis and is attached to the bottom of the chassis. One EIDE or SCSI 1-inch-high hard-disk drive can be mounted on the hard-disk drive mounting bracket.

Midsize Chassis

The hard-disk drive bracket is located next to the externally accessible drive bays at the front of the computer. The hard-disk drive bracket can contain either (1) or (2) 1-inch-high EIDE or SCSI hard-disk drives, or it can hold (1) 1-inch-high EIDE or SCSI hard-disk drive and (1) 1.6-inch-high EIDE or SCSI hard-disk drive.

Mini Tower Chassis

The hard-disk drive brackets are located under the externally accessible drive bays at the front of the computer. The system supports 3.5-inch EIDE or SCSI drives. The system brackets can hold (1) 1-inch-high drive and (1) 1.6-inch-high hard-disk drive.

EIDE Subsystem

The EIDE subsystem provides 2 mode-4, DMA bus-mastered EIDE interfaces, each of which can support up to 2 EIDE devices. The EIDE controller attaches to the high-speed PCI local bus.

The primary EIDE interface (IDE1) provides support for up to 2 high-performance EIDE devices, such as hard-disk drives. The computer's boot drive should be connected to the primary EIDE interface.

The secondary EIDE interface (IDE2) provides support for up to 2 additional EIDE devices, typically EIDE tape drives or CD-ROM drives.

NOTE: The externally accessible drive bays at the front of the computer are normally used for diskette drives, CD-ROM drives, and/or tape drives. Hard-disk drives should be installed in the internal hard-disk drive bracket(s). For additional information about the data storage subsystem, see Chapter 7, "Installing Drives," in the Reference and Installation Guide.

System Setup: OptiPlex GXi

See

Video: OptiPlex GX*i*

[VGA Subsystem](#) | [Text Modes](#) | [Graphics Modes](#) | [Available Video Drivers](#)

VGA Subsystem

The video subsystem consists of a high-speed, high-resolution video controller built into the system board. Because the video controller connects to the PCI bus rather than to the ISA bus, communication between the video subsystem and the microprocessor is much faster. The PCI bus operates at a frequency of 33 MHz as compared to the 8.25-MHz operating frequency of the ISA bus.

The video subsystem includes 2 MB of video memory built into the system board.

Text Modes

Columns by Lines and Colors	**Mode Number**
40 × 25; 16	0h, 1h
80 × 25; monochrome	7h
80 × 25; 16	2h, 3h
132 × 25; 16	55h
132 × 43; 16	54h
132 × 44; 16	56h

Graphics Modes

Resolution and Colors	**Mode Number**
640 × 480; 256	101h
640 × 480; 32,768	110h
640 × 480; 65,536	111h
640 × 480; 16.7 million	112h
800 × 600; 16	102h
800 × 600; 256	103h
800 × 600; 32,768	113h
800 × 600; 65,536	114h
800 × 600; 16.7 million	115h
1024 × 768; 16	104h
1024 × 768; 256	105h
1024 × 768; 32,768	116h
1024 × 768; 65,536	117h
1280 × 1024; 16	106h
1280 × 1024; 256	107h

Available Video Drivers

- Microsoft® Windows® 3.1
- Microsoft Windows 95
- Microsoft Windows NT® Workstation and Server